HAZARD IDENTIFICATION AND ABATEMENT

1. Purpose. The early detection of unsafe and unhealthful working conditions and prompt correction of related hazards at the lowest possible working level are essential elements of accident and illness prevention. The procedures to be used in the Coast Guard to identify and track the correction of hazards are detailed in this enclosure.

2. Hazard Identification.

   a. Employee Hazard Report Types.

      (1) Oral Reports. Coast Guard personnel are encouraged to make oral reports to supervisors as the most prompt and effective method of hazard identification. Commanding officers shall hold supervisors accountable for investigating any alleged hazard reported to them and, if valid, for having the hazard followed up until corrected. Supervisors shall commit all valid oral reports to writing by completing the USCG Employee Hazard Report form (Figure 1-1).

      (2) Written Notices. Coast Guard military personnel or employees may submit written notices of suspected unsafe or unhealthful conditions in the workplace by completing form CG-5082, Hazardous Condition Notification (Figure 1-3) and submitting via normal chain of command. Forms do not need to be signed.

      (3) Report Directly to Commandant (G-KSE). If desired, Coast Guard civilian employees or employee representatives may submit a completed CG-4903 directly to Commandant (G-KSE), giving essential details as to why a condition is considered hazardous, suggested solutions to the problem, and the exact location of the condition. Reports need not be signed. In suspected imminent danger situations, telephone reports are acceptable.

      (4) Agency or Negotiated Grievance Procedure. Civilian Coast Guard employees or their representatives may also use the agency or negotiated grievance procedure or they may write directly to the Occupational Safety and Health Administration (OSHA) to seek further resolution of a hazardous condition. Details are provided on the Coast Guard Occupational Safety and Health poster, a copy of which is required to be prominently displayed in each workplace.

2. b. **Employee Hazard Report Procedures.**

(1) Copy to Unit's Safety Staff. Any employee submitting a USCG Employee Hazard Report shall provide a copy to the appropriate command safety staff. Suspected imminent danger situations shall be reported by telephone and followed up in writing.

(2) Hazard Investigation. Upon receipt of a CG-4903, or other Coast Guard personnel notice, the Unit Safety Supervisor or nearest Safety Supervisor shall investigate the safety hazard and refer environmental health issues to the nearest industrial hygienist or environmental health specialist as appropriate. The appropriate safety and health staff shall initiate an investigation of the reported condition and respond in writing (if the identity is known) to the employee who reported the hazard within 24 hours for reports of imminent danger conditions, within 3 working days for potentially serious conditions, and within 20 working days for other than serious conditions. However, an inspection may not be necessary, if through normal management action and prompt notification of personnel, the hazardous condition(s) identified can be abated immediately. For anonymous reports, make a note to file.

(3) OSHA 29 CFR 1960.28 (d) requires all establishments (including Coast Guard units) to maintain a log of employee hazard reports. CG-4905, USCG Hazardous Conditions Log (Figure 1-2) shall be used to fulfill this requirement and for the timely tracking of the Hazard Abatement process at the unit level. The Safety Supervisor/Officer shall maintain this log for 1 year after all hazards have been abated.

(4) The unit or servicing Collateral Duty Safety Officer, Safety Supervisor or Industrial Hygienist that receives the USCG Employee Hazard Report shall enter unabated hazards in the Coast Guard Safety and Health Hazard Abatement Data System (SHHADS) or call servicing MLC who will take information over the phone and enter into data system.

2. c. **Hazards Discovered During Audits or Inspections**.

(1). All serious, unsafe or unhealthful conditions discovered during audits or inspections shall be reported in the SHHADS data system and shall be tracked until corrected.

(2). In cases of imminent danger situations, one copy of Hazardous Condition Notification (CG-5082) must be posted at the site of the hazard. The form shall remain posted for a minimum of three days, or until the hazard has abated. All other reports of hazardous conditions must be kept in a place readily available for Coast Guard employee review. Hazardous Condition Notification form may also be posted at hazardous sites where the degree of danger is less than imminent.

3. **Hazard Abatement**.

a. **Correct the Hazard**. After a hazard has been identified, upon receiving notice, the command shall promptly initiate action to abate or correct the hazard.

b. **Written Hazard Abatement Plan**. All serious hazards which cannot be abated within 30 days require a written hazard abatement plan. Abatement plans shall give the reason for abatement delay, a proposed timetable for abatement and the interim measures being taken to protect personnel.

c. **Forward Abatement Plans**. Abatement plans shall be forwarded to the appropriate MLC Safety and Health Staff within the commands geographic zone for inclusion in the SHHADS data system. Form CG-5082 may be used to forward hazard abatement plans. Plans shall be kept current, shall be updated when substantial changes occur and shall be tracked by the appropriate Safety and Occupational Health Staff until completed.

4. **SHHADS Computerized Data System File Structure**. The SHHADS file data dictionary defines and sets limits on the data elements contained in the file. A copy of the data dictionary (SHHADS.DIC) can be found in the computer system.

5. **Instructions for Completing Form CG-5082**. See Figure 1-3 for a sample copy of CG-5082.

   a. Enter the name and address of the unit from which the report is being submitted or unit being inspected.

   b. Enter seven digit Operating Facility (OPFAC) number. See the Operating Facilities of the U.S. Coast (COMDTINST M5440.2 series). Example of an OPFAC: 05-36236.

   c. Date form prepared or submitted.

   d. Check appropriate box for type of notice.

   e. Describe equipment, process, procedures, etc., creating hazard. Also, for other than personnel reports, use this space to state interim abatement action (abatement plan). Recommended solutions may be included here.

   f. Describe hazardous condition. Give number of personnel exposed to hazard.

   g. Enter the standard violated. Use the most appropriate Coast Guard standard.

   h. Enter location, building number, shop name, room number, etc. For vessels, enter compartment number or other identifying data.

   i. Enter estimated cost, including both manpower and material costs. Rounded off estimate to nearest whole dollar. DO NOT leave spaces blank. Enter estimated time to complete, using days as the unit of time.

5. j. **Criticality**. Select one from the following:

(1) Imminent Danger. A condition or practice that could reasonably be expected to cause death, disease, illness, or serious physical harm immediately or before the danger can be eliminated through normal abatement procedures.

(2) Serious. A hazard that could adversely affect a person's health or safety or mission accomplishment, if such a condition or practice is allowed to persist.

(3) Non-Serious. A hazard that is less serious, but nevertheless has the potential to cause mishaps or is in violation of Coast Guard Safety and Occupational Health standards.

k. Safety specialist code is the first two digits of the seven digit OPFAC number of the safety and health professional signing the form.

l. When the corrective action has been completed, this block is to be completed and signed by the unit Commanding Officer and forwarded to the appropriate safety and health staff.

note: The CG-4903, USCG Employee Hazard Report, and the CG-4905, USCG Hazardous Conditions Log are authorized for local reproduction from the attached examples. Form CG-5082, Hazardous Condition Notification may be procured from Supply Center Brooklyn, using SN 7530-01-GF2-5480, U/I (SE).

Department of Transportation U.S. Coast Guard CG-4903 (1-91)	USCG EMPLOYEE HAZARD REPORT (See Instructions on Reverse)	Hazard Report No._____ (Assigned by Safety Office)

HAZARD (Completed by individual reporting hazard)

Reports may be submitted anonymously. Reprisals for reporting actual or suspected hazardous conditions are forbidden (COMDTINST M5100.47 Chapter 1)

To: Unit Safety Supervisor/Safety Officer	From: (Optional) Name, Organization

Description of Hazard (Date, Time, Summarize-Who, What, When, Where, How, Why)

Facility, Procedure, Equipment (Type, Model, Serial Number) or Material Involved

Recommendations (What you think will solve the problem)

INVESTIGATION OF HAZARD

Criticality: Imminent Danger ☐ Serious ☐ Non-Serious ☐

Summary of Investigation (Cite Standard Violated)

Recommendations by Safety Investigator

Action Taken by Office of Primary Responsibliity

Date Received	Reviewer	Signature of Reviewer
Date Forwarded	Investigator/Action Officer	Signature of Investigator
Date Closed		

LOCAL REPRO

Figure 1-1

INSTRUCTIONS FOR COMPLETING USCG EMPLOYEE HAZARD REPORT

HAZARD REPORT NO. is completed by Collateral Duty Safety Officer/Safety Supervisor

SECTION 1 HAZARD is completed by individual reporting hazard.

1. Enter the name of your UNIT SAFETY SUPERVISOR /OFFICER.

2. Enter name, Organization. **(No adverse actions maybe taken against an employee for reporting actual or suspected hazards.)**

3. Give a DESCRIPTION of the HAZARD summarizing who did what, when (time and date), where, how and why.

4. Enter TYPE, MODEL, SERIAL NUMBER of equipment or MATERIAL used, FACILITY involved, or a description of the HAZARD involved.

5. State what RECOMMENDATIONS you think will solve the problem.

SECTION 2 INVESTIGATION OF HAZARD is to be completed by the investigating safety supervisor/officer at the unit, district or MLC level as appropriate.

1. A SUMMARY of INVESTIGATION by the investigator will be entered along with the STANDARD that was VIOLATED. The CRITICALITY shall be entered based on the following:

   a. Imminent Danger. A condition or practice that could reasonably be expected to cause death, disease, illness, or serious physical harm immediately or before the danger can be eliminated through normal abatement procedures.

   b. Serious. A hazard that could adversely affect a person's health or safety or mission accomplishment, if such a condition or practice is allowed to persist.

   c. Non-serious. A hazard that is less than serious, but has the potential to cause mishaps or is in violation of Coast Guard Safety and Occupational Health Standards.

2. The RECOMMENDATIONS of the Safety Investigator will be entered here.

3. ACTIONS TAKEN BY THE OFFICE OF RESPONSIBILITY will be entered to indicate what interim abatement measures the responsible party is taking. Follow up shall be included.

REVIEW AND COORDINATION SECTION.

1. THE REVIEWING OFFICIAL shall enter dates received, forwarded, and closed. This person is responsible for monitoring the hazard reports of the affected unit, district, or MLC area as appropriate. May be the Safety Supervisor, Collateral Duty Safety Officer, or Industrial Hygienist. The name of the reviewer will be legibly entered and signed in the appropriate blocks.

2. The INVESTIGATOR or ACTION OFFICER (person investigating hazard) will legibly enter name and signature in the appropriate blocks.

USCG HAZARDOUS CONDITIONS LOG

DATE RECEIVED	LOCATION	NUMBER	HAZARDOUS CONDITION	CORRECTIVE ACTION	FOLLOW-UP	CORRECTED

Date Reviewed	Reviewing Person	Signature of Reviewer
Date Followed-up		
Next Follow-up Due		

DEPT. OF TRANSP., USCG, CG-4905 (1-91)

LOCAL REPRO

Figure 1-2

Reverse Blank

Encl. (1) to COMDTINST M5100.47

MISHAP ANALYSIS REPORT (MAR) FORMAT AND ROUTING.

1. Preparation of the Mishap Analysis Report. The sole purpose of a Mishap Analysis Report (MAR) is to assist the Commandant in preventing future mishaps. The MAR is not a legal document, and it is not necessary to enclose documents unless they reveal unusual circumstances that are essential to clearly understanding the report or mishap. In the past, Mishap Analysis Board (MAB) reports have contained enclosures that were unnecessary to the report, i.e., copies of yellow sheets, blue sheets, flight plans, weather briefing, crew members training records, maintenance records and/or diagrams, etc. Do not include copies of all related paperwork (flight plans, log entries, personnel qualification records, etc.) unless they show significant problems or irregularities. Simply stating that the MAB examined these specific documents/records and found them in order is sufficient. The board only needs to comment in the report that the AC failed to sign the yellow sheet; the crew member(s) was current/non-current regarding training requirements, the crew filed a proper flight plan and received a weather brief, etc. Nice to have, but not essential, documents should be left out. Further guidance can be obtained from Commandant (G-WKS) during the investigation.

NOTE: Observations made about the unit by the MAB unrelated to the mishap are best handled via the MAB President during the out brief with the Commanding Officer.

2. Mishap Analysis Report (MAR) Preparation. The report shall be formatted in accordance with section 3 of this enclosure and prepared using standard Coast Guard word processing software. A disc containing the report shall be forwarded directly to Commandant (G-WKS) by the MAB President after the MAB adjourns. The MAR shall:

   a. Be prepared on letter-size paper contained within a folding pressboard folder fastened at the top with two-hole fasteners. DO NOT use loose-leaf binders or notebooks.

   b. Contain all privileged information on the RIGHT side of the folder. This includes the analysis, conclusions, recommendations, privileged witness statements, and all other information that is only known to the MAB due to its privilege status. Number the pages beginning with the cover sheet. (See enclosure (10), section 15.a.)

NOTE: Verbatim transcripts of statements or interviews shall not be made. Interviewers' notes or summaries are sufficient. After the final review and release of Chief of Staff's Final Decision Letter, the MAB President shall destroy all tapes and notes of privileged information.

   c. Contain all non-privileged information on the LEFT side of the folder. This includes synopsis, diagrams, photographs, lab analysis reports, all other enclosures, non privileged appendices, etc. List the enclosures on a cover sheet (See enclosure (10), section 15.b.)

   d. Securely attach all captions to the photographs. If possible, the captions should be placed so that the caption and the photographs can be examined simultaneously.

NOTE: Attaching captions that include speculations, conclusions, or opinions directly to the photograph renders the photograph a privileged document. If the captions can be redacted, the photocopy may be released under FOIA.

e. Ensure that all copies are legible. Signatures are required on the original report, statements, appendices, and enclosures. If individuals are not available to sign the original documents, authentication of the document by the MAB is authorized. Copies of the formal MAR, statements, appendices, and enclosures do not require signatures or authentication, except when a copy is submitted in lieu of the original report.

3. Detailed Description of the Report.

a. Cover Sheet. This page shall be labeled as follows:

Name of Unit/Custodian and mishap Class

Aircraft Model/Serial # / Class of Cutter/Small Boat (if applicable)

Pilot-in-Command/ Coxswain (if applicable)

Unit Commanding Officer/OIC

Date of Mishap

b. Table of Contents. On this page, list titles and page numbers of all major paragraphs and enclosures.

c. Synopsis. The synopsis page will present a brief factual summary of the mishap, property damage, injuries, occupational illnesses, deaths, and sequence of events. The synopsis should lead the reader through the sequence of events involved in the mishap. It should be a chronological summary of the facts, conditions, and circumstances as they occurred without reference to attachments. State why the mishap occurred, not how. Do not discuss the importance of facts or how they relate to the conclusions

NOTE: Do not identify personnel involved in the mishap by name or call sign in the synopsis. Instead, use such terms as "the flight lead," "the crane operator" or "involved personnel."

NOTE: The synopsis is releasable under the Freedom of Information Act (FOIA). Therefore, it should be a factual, complete recount of the mishap. No analysis should be included. Many FOIA requests are for a summary of the mishap not the actual report. In these cases, only the synopsis is released.

d. Mishap Information. In this section, only information and data that relate to the mishap and the personnel involved are presented. All of the listed paragraph titles may not apply to all mishaps. Therefore, whenever a paragraph is deleted, the paragraph numbering will be changed from that indicated. The Mishap Analysis Report format should be adjusted by adding/deleting paragraphs. Should there be any questions concerning the report format, contact Commandant (G-WKS).

(1) History. Under this subheading, describe in chronological order the

significant sequence of events that preceded the mishap. In some cases this can be achieved by using the radio log(s)/transcripts as a basis of time. Any evidence that is relevant, regardless of the source, may be added as long as it relates to established fact. A convenient introduction is to give a description of the mission, the departure point, the departure time and the destination. A description of the events could commence with the crew briefing and planning and proceed to departure, weather, navigational details, significant communications, and the sequence of events culminating in the mishap. It is important to give a word picture of the pertinent events and scenarios as they occur and what personnel involved in the mishap knew. The mishap site (Latitude/Longitude), local time, the elevation (if applicable), weather, visibility, etc. should be included in this section.

(2) Injuries to Personnel. Complete the following table (in numbers):

	CREW	PASSENGERS	OPERATOR	OTHER	TOTAL
INJURIES	---	---	---	---	---
FATALITIES	---	---	---	---	---
NO INJURIES	---	---	---	---	---

(3) Damage to Unit. Give a brief statement of the damage sustained by the unit in the mishap. A complete, technical description of the damage will be made in Appendix D of the mishap analysis report.

(4) Other Damage. Give a brief description of the damage sustained by non-Coast Guard property. A complete, technical description of the damage will be made in Appendix D of the mishap analysis report.

(5) Personnel Information. Under this subheading, describe crew and operator qualifications, experience, and previous assignments. This description should provide at least the following:

(a) Names, SSN, ranks, and ages.

(b) Billet/Assignment. Give the position held or occupied when the mishap occurred, such as: pilot-in-command, engineer, copilot, navigator, coxswain, OOD, boarding officer, etc. For aviation mishaps include seat position and aircraft designation.

(c) Aviation, vessel or job experience. Give details of job experience, involving job or equipment operated during the mishap. Provide type of aircraft flown, vessel sail, hours/time in type, total hours.

(d) Details of recent training and mandatory periodic checks, and currency of training.

(e) Time at unit; experience with route/familiarity with waters/AOR where mishap occurred.

(f) Duty and rest periods.

(g) Any other information considered significant.

(6) Aircraft/Vessel Information. Describe the aircraft/vessel history and maintenance. The description should include:

(a) Type/serial number of aircraft or class of vessel and date of construction/manufacture.

(b) Damage that has resulted from previous mishaps.

(c) Major modifications/renovations to the structure or key components associated with the mishap.

(d) Defects, if any.

(e) Aircraft take off/landing data cards and weight and balance sheets.

(7) Meteorological Information. Describe the forecasted weather conditions and any relevant observations of the actual weather conditions, with an after-case or appreciation of the weather in retrospect. This description should provide at least the following:

(a) Forecast weather, including route and destination forecasts available to the unit/personnel and details of weather briefings received prior to departure or in route.

(b) Weather observations at the time of the mishap.

(c) Actual weather conditions along the route and at the mishap site. On scene weather, sea conditions, seawater temperature and details of these conditions encountered along the track-line prior to the mishap.

(d) Natural light conditions at the time of the mishap day, night, twilight, moonlight, etc.

(8) Aids to Navigation. Describe the availability of navigation facilities. This information should include the steps taken to establish the serviceability of the facilities at the time of the mishap. List navigation equipment carried and indicate whether an integrated navigation system was installed. Serviceability of this equipment should be stated. Details of maps, charts, approach plates, etc., available to crew and appropriate to the route should be included.

(9) Communications. Describe the communications facilities available to the aircraft/vessel and their effectiveness. All communications with other agencies or vessels (Air Traffic Control, Vessel Traffic Service, Navy, Oceanic, etc.) relevant to the circumstances of the mishap should be included by reference to communication logs or transcripts of recordings. Include pertinent extracts only.

(10) Airdrome and Ground Facilities (For Aviation Mishaps Only). Describe relevant information concerning airdrome installations, such as runway lengths, slope, obstructions, and runway conditions. Include airdrome lighting, approach lighting, VASI, and runway

lighting information.

(11) Flight Recorders/Voice Recorders (For Aviation Mishaps Only). Provide any necessary critiques of the system; the condition, location, serviceability, functioning, capacity, parameter coverage, accuracy, and sampling rate that is relevant. If the recorder(s) operated properly, a short statement to this effect is all that is necessary. If not, the shortcomings should be described. The pertinent flight recorder/cockpit voice recorder readouts are not normally included in this section but are generally attached to the report as an appendix.

(12) Wreckage Description. In relatively uncomplicated mishaps the entire wreckage examination may be described under this subheading. In major mishap investigations, however, it may be necessary to discuss the examination of the wreckage and the technical investigations under appropriate sections: e.g., structures, power plants, systems and human factors. The description in each section should embrace the significant facts determined by the group or specialist responsible for the detailed investigation. These special reports shall be contained in the mishap report as an appendix.

(13) Fire. If fire occurred, describe the nature of the occurrence and of the fire fighting equipment used and its effectiveness. Appropriate comments on the training and coordination of personnel should be included.

(14) Survival Aspects. Describe search, evacuation and rescue aspects. Note the locations of crew and passengers in relation to injuries sustained. Report on the effectiveness of personal protective equipment and whether it was used/worn.

(15) Tests and Results. Describe the nature of any tests or research undertaken in connection with the mishap and state the results.

(16) Unit Response to the Mishap. Describe the adequacy of the unit's pre-mishap and/or pre-fire plan. State when and how the response was initiated; and the status of the investigation when the Formal Mishap Analysis Board assumed responsibility for the investigation.

(17) Witnesses. List all witnesses interviewed and whether they were offered and accepted privilege. For witnesses offered privilege a Witness Statement-Promise of Confidentiality Advisory Form (See Figure 2-1) must be included with their statement as proof that the individual was offered privilege and whether the witness accepted or declined the offer.

Figure 2-1 NOTE: This statement is for all mishaps in which confidentiality is offered. Every witness offered confidentiality shall read and sign this form. Copies of the form should be made on 8-1/2 by 11-inch paper for inclusion in safety reports.

Witness Statement Offer of Confidentiality Advisory Form

You are hereby advised that, as a witness to this safety investigation, your statement will be used solely for mishap prevention purposes. Your statement will not be made available to anyone other than United States Coast Guard officials responsible for the assembly and review of this safety investigation report.

I, (Name)_____,
(Rank/Rate/Grade)_____, (Organization)_____, have been advised by
(Name)_____ of the following:

- This investigation is being conducted under the provisions of COMDTINST M5100.47 solely for mishap prevention within the United States Coast Guard to determine all factors relating to the mishap and to prevent recurrence.
- I have been offered confidentiality concerning this statement. If I elect to have my statement treated as confidential, this means it will not be distributed outside the Coast Guard nor used within the Coast Guard as evidence to support any disciplinary action or adverse administrative action including, but not limited to line-of-duty status or pecuniary liability, or separation from the Coast Guard.
- Non-confidential witness statements may be released to the public pursuant to a Freedom of Information Act request or used in disciplinary or administrative proceedings. Only statements given under an offer of confidentiality are protected from release and use beyond safety purposes.
- Whether or not a statement is considered confidential, the chain of command will review the final mishap report, but the chain of command may only use confidential statements for safety and mishap prevention purposes.

I understand I am being interviewed as a witness in a mishap investigation and I acknowledge that an offer of confidentiality has been extended to me. I further understand the effect of this promise. I (do) (do not) desire my statement to be treated as confidential.

_____(Signature)_____(Date)

Verified and Witnessed by: _____ (Signature of person offering confidentiality) _____ (Date)

(To be completed after the witness has given a statement)

I (still desire) (do not desire) to have my statement to remain confidential.

_____ (Signature) _____ (Date)

Verified and Witnessed by: _____ (Signature of person having offered confidentiality) _____ (Date)

(19) Classified Material. Describe possible impact or compromise of classified material resulting from the mishap. Include here, any recommendations for improvements.

(20) News Media and Public Reaction. Describe any effect or reaction on the news media or the public created by the mishap. Include here, any recommendations for improvements.

(21) Additional Data. Each causal factor should be a conclusion reached from the collected data. Add any essential paragraphs needed to support/illustrate the determination of each mishap causal factor.

e. Analysis. In the analysis, it is not necessary to repeat any description of the evidence. However, the Board should review and evaluate the evidence and develop the various patterns, conditions and events that may have existed. This will lead to the formulation of hypothesis that may be tested against the evidence. Theories not supported by evidence should be eliminated. The justification for sustaining the validity of the remaining hypothesis or hypotheses should be stated. There should follow a description of the pattern or series of conditions and events that have been determined to be causal factors in the mishap, and reference should be made to the relevant evidence in support of the argument as it is developed.

f. Conclusion. Conclusions should indicate which aspects of the evolution contributed to the mishap and which did not. It is usual to report on certain features in every case, for example:

(1) The training and experience of the crew.

(2) The condition, stability or airworthiness/seaworthiness of the aircraft/vessel.

(3) Pre-mishap human error/equipment failure that contributed to or resulted in the loss.

g. Causal Factors. List all causal factors contributing to the mishap. Designate which cause factors need to be corrected to keep similar mishaps from occurring. Some factors, because of their importance, or because they can be easily corrected, tend to take priority positions. These factors should be described in a concise statement rather than just an abbreviated description of the circumstances of the mishap. If the investigation uncovers cause factors or findings requiring immediate corrective action beyond the unit level, Commandant (G-WKS) shall be notified immediately. The MAB President shall follow up on this initial report with an operational immediate message as soon as practical. Each causal factor should address who did what and why.

h. Recommendations. Recommendations are feasible solutions related to the causes of the damage, fatalities, or injuries in the mishap sequence of events. While recommendations are normally in response to causal findings, not every cause needs to have a recommendation. Well thought out recommendations are necessary for proper corrective action. Recommendations should be short, concise statements requiring no explanation and follow in a natural sequence

after the analysis, conclusion, findings, etc. Include recommendations not related to the causal factors of the mishap as "other findings or recommendations."

i. Signature Page. The names and rank/rate of all MAB members will be typed on a separate signature page. All MAB members will sign and date the MAR immediately above their typed name.

j. Investigation and Report Preparation Work-Hours. On the signature page, list the estimated work-hours required for the mishap investigation and analysis and the estimated hours required to prepare the MAR.

k. Distribution List. On signature page or the page immediately following, list number of copies made and the distribution. (See Figure 2-2).

l. Appendices. Where appropriate, the following appendices need to be included in the MAR.

(1) Appendix A. A copy of the initial mishap message and all supplemental, progress and final messages in chronological order.

(2) Appendix B. MAB appointing order/messages.

(3) Appendix C. Personnel Information. In addition to the mishap crew, include pertinent information regarding other personnel, such as air traffic controllers, and maintenance personnel, etc., when relevant to the mishap.

(4) Appendix D. Damage Summary. A detailed description of Coast Guard and non-Coast Guard property damage. Include photographs and detailed sketches as necessary.

(5) Appendix E. Transcripts of pertinent recorded radio communications (air-to-ground and aircraft-to-aircraft). Begin the transcript as early in the mishap sequence as needed and end the transcript when all damage and injury has occurred. It is not necessary to include long term rescue/SAR transmissions. Because radio communication transcripts are factual data, they often provide a basis for information in the factual summary of circumstances.

(6) Appendix F. Transcripts of relevant portions of the cockpit voice recordings (CVR). The transcribed material is considered non-privilege. The actual CVR tapes are protected from release to the public based on the privacy interests of the aircrew and or the surviving family members.

(7) Appendix G. Films or videotapes documenting the actual mishap sequence or mishap scene (i.e., flight deck videos, films from bystanders) are not privileged material, should be located with this tab. List the tape or film on the index page. Animations made from flight recorder data are not privileged as long as they do not contain privileged safety information (i.e., MAB opinions, speculation, conclusions or other information known to the MAB. If the actual

audio of the mishap crew is voices incorporated into the animation, simulation or recreation, the tape with such audio is not releasable due to the privacy interests of the aircrew and or their surviving family members.

(8) Appendix H. Photographs should be well-defined 8 by 10 inch. Photographs should show damage, impact areas, metal fractures, flight path, vehicle travel, etc. Use of scanned color images for reproduction in the formal report is preferred over use of actual photographs. Number the pages containing photographs (G-1, G-1, etc.). Do not mark the photographs themselves. To aid the reviewers, place an index of photographs at the beginning of the Tab. Do not refer to privileged information on the page captions or in the index. Staged photographs are considered privileged. Place staged photographs near the related text. Pointing with a finger or other device at a portion of wreckage does not make the photograph staged. Assembling or reconstructing damaged parts or aligning parts to show fire patterns or impact marks are examples of staged photographs. Depictions of cockpit indications for a given set of assumptions made by the MAB or described in witness statements are staged photographs.

NOTE: Do not include photographs of deceased personnel in the safety report.

NOTE: Include only photographs that aid in understanding the mishap.

(9) Video of simulation, computer animation's or reenactments of a mishap prepared using input from MAB members or with knowledge of privileged safety mishap information are privilege. Commandant (G-WKS) may authorize use of MAB video simulations for mishap prevention purposes after the mishap review is finished. Reference these video simulations or reenactments in the MAR, and include the video simulation with the MAR original sent to Commandant (G-WKS) via the reviewing chain. Destroy all other copies of the video simulation when no longer needed by the MAB for analysis or briefing.

(10) Appendix I and Subsequent. Add as many appendices as needed to support the investigation and the analysis. List appendices in the order referred to in the MAR. These could include, but are not limited to:

(a) Crew/witness Statements. Include only those statements essential to fully explain the mishap. Long statements from interviews should be summarized or paraphrased to include necessary portions only; legal, word-for-word transcripts shall not be made from interviews. Instead of including lengthy witness answers about background information, it will suffice for the MAB to simply comment on the reliability and experience of specific witnesses. Include the Witness Statement-Promise of Confidentiality Advisory Form (Figure 2-1) for each witness that was granted privilege.

(b) Include messages, lab reports, diagrams, drawings, photographs, etc., as necessary to clarify the report for reviewers

NOTE: It is sufficient to show a listing of documents or records reviewed by the MAB and their effective dates. Do not mark, highlight, or extract a particular page to show the MAB's exact area of interest. The MAB's conclusion that a particular paragraph of a document was or was not a mishap factor is privileged. This also applies to comments or conclusion made by the MAB of documents such as training and personnel records.

(c) Statement by maintenance officers.

(d) Weight and balance form, flight plans, weather briefing and other critical data or forms. Include only those forms supporting a cause factor.

(e) Applicable portions of Op-Orders, Comm-Plans, etc. Include only required or appropriate sections.

(f) Medical Officer's Report (if applicable). See enclosure (3) of this manual.

(g) Results of engineering investigations, analysis, etc.

4. Number of Copies. Because mishap reports contain sensitive and privileged material, it is imperative that the reports be controlled. Therefore, only a limited number of copies and copyholders are authorized. The MAB President is the only MAB member authorized to keep a MAR copy. Reviewers in the chain are not authorized to hold a copy, and shall not reproduce or be provided a copy, unless requested of and authorized by Commandant (G-WKS). See Figure 2-2 of this enclosure for specifics. Commandant (G-WKS) maintains the original copy of the MARs. The original MAR and all copies (including the MAB President's) are to be returned to Commandant (G-WKS) for destruction after the Final Action Message is released.

NOTE: MISHAP REPORTS CONTAIN SENSITIVE, PRIVILEGED MATERIAL. UNDER NO CIRCUMSTANCES SHALL ADDITIONAL COPIES OF MISHAP REPORTS BE MADE WITHOUT THE EXPRESS PERMISSION OF COMMANDANT (G-WKS).

5. MAR Labeling.

a. The original MAR and copies shall be labeled in the center of the cover:

COAST GUARD (TYPE) MISHAP
UNIT
CLASS: (A or B)
DATE:
RESOURCE TYPE/SERIAL NUMBER:
COPY(*)

* Mark according to TABLE 2-2 (i.e., ORIGINAL, COPY 1/UNIT FILE, etc., as appropriate).

b. The following notice shall appear on the MAR immediately after the initial heading identifying the mishap

MISHAP ANALYSIS REPORT
FOR OFFICIAL USE ONLY
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH COMDTINST M5100.47 (series)

c. The following notice shall appear immediately after the initial heading identifying the mishap and on each page containing privileged information

//

FOR OFFICIAL USE ONLY

WHAT FOLLOWS MAY CONTAIN PRIVILEGED SAFETY INFORMATION. UNAUTHORIZED DISCLOSURE OF THE INFORMATION IN THIS REPORT IS PUNISHABLE UNDER ARTICLE 92, UNIFORM CODE OF MILITARY JUSTICE AND MAY ALSO BE GROUNDS FOR DISCIPLINARY ACTION UNDER CIVILIAN PERSONNEL REGULATIONS

//

d. The following notice shall appear immediately before the subject line of the mishap message and subsequent endorsements:

UNCLAS FOUO //N05100// or //N03750//
WHAT FOLLOWS MAY CONTAIN PRIVILEGED SAFETY INFORMATION. USE FOR MISHAP PREVENTION PURPOSES ONLY.

e. Mailing Envelopes/Outside Covers. Mailings and Mishap Analysis Report Covers should be stamped:

FOR OFFICIAL USE ONLY SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH COMDTINST M5100.47 (series)

6. Distribution. Distribute copies as appropriate. (See Figure 2-2).

Figure 2-2

Mishap Analysis Report Distribution

Aviation Mishaps

MARK	FORWARD TO
Original	G-WKS-1, via reviewing CO, District & Area. (Vessel Commanding Officer and ATC Mobile, as appropriate)
Copy 1/Unit	Unit: retain until Final Action Message is released
Copy 2/MAB President	MAB President retain until Final Action Message is released

Copy 3/G-OCA	Forward to G-WKS; retain until Final Action Message is released
Copy 4/G-SEA	Forward to G-WKS, retain until Final Action Message is released
Copy 5/G-WKH	Forward to G-WKS, retain until Final Action Message is released

All copies of the MAR will be returned to G-WKS after the Final Action Message is released

Vessel Mishaps

MARK	FORWARD TO
Original	G-WKS-4, via reviewing CO, District & Area.
Copy 1/unit file	Unit file
Copy 2/MAB President	MAB President
Copy 3/G-OCU (cutters) G-OCS (small boats)	Forward to G-WKS; retain until Final Action Message is released

All copies of the MAR will be returned to G-WKS after the Final Action Message is released

Shore Mishaps

MARK	FORWARD TO
Original	G-WKS-2, via reviewing CO, District & Area
Copy 1/unit file	Unit file
Copy 2/MAB President	MAB President
Copy 3/G-SEC	Forward to G-WKS; retain until Final Action Message is released

All copies of the MAR will be returned to G-WKS after the Final Action Message is released

7. Delivery of Mishap Analysis Reports. When the MAB has completed its analysis and prepared the report, the MAB President shall deliver the original and all copies, less the MAB President's copy, to the Commanding Officer for his review and endorsement. At this time, the MAB President shall also debrief the Commanding Officer regarding the results of the analysis. The MAB President will notify G-WKS to coordinate and release the MAB's final message and make arrangements for the

release of the aircraft and/or wreckage, as appropriate.

8. Mailing of Mishap Analysis Materials.

   a. Mishap Analysis Reports. A double envelope system shall be used in mailing MAR's. Mark the inner envelope with the address of the person/office who is to receive the report, along with the following information:

FOR OFFICIAL USE ONLY
SPECIAL HANDLING IN ACCORDANCE WITH
COMDTINST M5100.47 (series)

   b. Mailing of Recorded Tapes. Audio tape/cassette recordings and videotapes may be included in the MAR. Forward these items as follows:

      (1) Protectively package the materials to avoid breakage by rough handling.

      (2) Mark outside of package, "**MAGNETIC TAPE, DO NOT X-RAY.**"

   c. Handling and mailing Mishap Animation Tapes. If mishap animations are created from the CVR/FDR data or other mishap data, the original shall be forwarded to G-WKS-1 with the original MAB via the reviewing chain.

9. MAR Review and Endorsement. The major purpose of a mishap report is to initiate corrective action to prevent similar mishaps in the future. This is important to keep in mind during the review process. Only through objective, thorough, and critical investigation and review will the Coast Guard be able to institute the necessary corrective action to prevent future mishaps. Endorsement shall not contain any reference to disciplinary action, personnel or medical boards.

   a. The Commanding Officer.

      (1) Shall review and endorse the report. Comment upon each causal factor, additional findings, and recommendations of the mishap board. If he does not concur with the causal factor(s), additional finding(s), or recommendation(s) submitted by the mishap board, he will present an analysis of his reason for non-concurrence.

      (2) If a need for local action is indicated, state the specific action that has been or will be taken to correct the situation and to prevent such future mishaps.

      (3) If the mishap involved human error cause factor(s), provide a personal evaluation of the individual(s) involved, their attitudes and past performances, including deficiencies.

   b. All Other Reviewing Officials.

      (1) Review the mishap report to evaluate the circumstances surrounding the mishap and initiate action, as appropriate, to correct deficiencies disclosed. If a reviewing officer does not concur with the causal factors, additional finding(s), or recommendation(s) submitted by the mishap board, or disagrees with comments/actions taken by the

Commanding Officer, the reviewing officer will present an analysis of the reason for non-concurrence in the endorsement.

(2) Make appropriate recommendations to prevent similar future mishaps. State specific actions that have been or will be taken on recommendations that can be resolved at that reviewing level.

NOTE: To facilitate review by the endorsing chain, all reviewers should ensure comments coincide with the paragraphs of the MAB (remarks should follow the same format as the reports).

NOTE: To facilitate review by the endorsing chain, all reviewers should limit comments to those linked to specific facts, findings and recommendations contained in the MAR.

10. Reviewer Deadlines. Timely review of the formal Mishap Analysis Report is a critical process of preventing future mishaps. Delays at this stage can result in further loss and/or injury.

a. Within 21 days after the MAB completes their on-site investigation and analysis, the MAB President shall forward the original MAR. The original MAR shall be forwarded to Commandant (G-WKS) via the Commanding Officer and appropriate chain of command for review and endorsement.

b. MAR reviewers shall **review, endorse and forward the MAR via the chain of command within 15 workdays of receipt.** Unit Commanding Officer shall notify Commandant (G-WKS) when finished.

c. Commandant (G-WKS) shall advise the endorsing chain of associated deadlines and requirements for timely review via message. Commandant (G-WKS) will provide briefings to the endorsers by the MAB to expedite review. Requests for review extensions will not normally be granted and must be specifically requested through Commandant (G-WKS).

11. Headquarters Review and Disposition of MAR's.

a. The Commandant's Safety Board shall review all Class A and B MAR's and submit a report to Commandant (G-CCS) within 90 working days. Their report shall include but is not limited to:

(1) Synopsis of the mishap.

(2) Classification and cost of the mishap.

(3) Determination of the causal factors.

(4) Determination of the additional findings.

(5) Determination of the recommendations.

(6) Other remarks as appropriate.

(7) Information for the final update of the Coast Guard Mishap Report and Data Systems (non aviation mishaps).

(8) Development of a draft Commandant (G-CCS) Decision Letter.

b. Review of all other (Commandant-appointed) formal MAB reports will be

reviewed by the Commandant's Safety Board. Resulting reports to Commandant (G-CCS) shall be determined on a case-by-case basis.

12. Commandant (G-CCS) Review. Commandant (G-CCS) will review all Commandant Safety Board reports and issue a Final Decision Letter to the appropriate command(s)/authorities, via the chain of command. The Final Decision Letter shall direct the implementation of corrective action, if appropriate. The Final Decision Letter is not privileged.

13. Dissemination of Mishap Information to the Field.

a. Final Action Message. The Final Action message is a brief summary of the Final Decision letter. Commandant (G-WKS) will draft and transmit this message to advise field units of the results of the investigation and review process.

b. Optional Sources. For particularly noteworthy or critical mishaps, Commandant (G-WKS) may further disseminate mishap safety information through various alternate methods, including:

(1) Articles in Coast Guard publications, such as the *Coast Guard* magazine and *Flight Lines.*

(2) Incorporate into Crew Resource, Team Coordination and Maintenance Resource Management training.

(3) Special interest newsletter articles.

(4) Federal or commercial safety publications.

(5) Electronic mailings to Commanding Officer and/or Safety Officer distribution lists.

MEDICAL OFFICER'S MISHAP REPORT (MOR)

1. GENERAL.

a. An accident is an unplanned event or series of events, which result in an injury and/or property damage. If the total severity of the damage and/or injury meets the minimum established criteria, then the event is categorized as a mishap. Most mishaps result from a combination of two or more causal factors. All cause factors are considered to have an equal role in the cause of a particular mishap since without one of them the mishap would likely not occur. All cause factors are also considered to be "under human control" meaning they can be eliminated and mishaps prevented. Defining the cause factors of a mishap and determining why they occurred is one of the biggest challenges of a mishap investigation. These investigations are difficult and time consuming but they need to be thorough and precise if we are to determine what went wrong and figure out how to prevent a recurrence. In all cases involving death or injury, Class A and Class B mishaps, a medical officer representative will be assigned, by the appointing authority, as the Human Factors member to the Mishap Investigation Board.

b. The Medical Officer's Mishap Report (MOR) is an essential part of a mishap investigation. The Medical Officer, when assigned to the investigation, should collect the initial medical evidence and compile ALL available medical materials that could be used by the Board as future evidence. This should include laboratory results, medical records, hospital admission forms, psychological profiles, autopsy reports, medical photographs, diagrams and any medical written opinions. However, information received, based only on opinions, should not be included in the MOR unless it is supported by physical facts, witness statements, and/or statements made during medical interviews. The analysis of the medical data shall be effectively coordinated with all other aspects of the investigation and must comprise the five essential underlying elements- *medical, physiological, psychological, social and behavioral* - which may relate to the cause factors of the mishap. In addition, the MOR should contain a detailed analysis of the two general groups of causal factors: **human and material**. This analysis should include a careful investigation of crash survival characteristics, escape systems, egress mechanisms and procedures, survival factors and any additional supporting information.

c. The ultimate goal of a mishap investigation is to determine the cause(s) of the mishap and prevent future recurrences. To such endeavor, the medical officer should pay close attention to all possible and potential contributing factors. It is important to remember that causality may have started as a result of events seemingly isolated and distant from the actual mishap. Causality should be sought along all possible operational settings, from crew, maintenance and supervisory factors, to the unit's facilities and support. The evaluation of these causality factors should, at a minimum,

include a careful review of operational components, such as communication, coordination, and performance, as well as engineering and environmental conditions before making a probability determination. In summary, the MOR should include all the factors included in the following table format.

Medical Officers Report- Causality Table

Human and Material Causal Factors Evaluation			
Medical Data	Mishap Factors	Causal Factors	Operational Components
Medical information Physiological conditions Psychological status Social events Behavioral reports	Crash survival characteristics Escape systems Egress mechanisms and procedures Survival factors Supporting information (photos; witness reports)	Crew factors Maintenance factors Support and facilities Supervisory factors	Communication Coordination Performance Engineering Environmental
Causality Determination			
Determined	Most Probable	Possible	Undetermined

d. Prior to completing the report, the Medical Officer should carefully review the following policies contained in the current version of the Safety and Environmental Health Manual, COMDTINST M5100.47 (series):

(1) Chapter 2, Aviation Safety Program.

(2) Chapter 3, Mishap Response, Investigation and Reporting.

(3) Enclosure (2), Mishap Analysis Report (MAR) Format.

(4) Enclosure (4), Mishap Analysis Board (MAB) Appointment, Composition and Procedures.

(5) Enclosure (10), Limitations on the Use and Disclosure of Mishap Investigations and Reports.

2. PREPARATION.

a. The medical officer should utilize all available tools in preparing the MOR. A well-organized pre-mishap plan and on-site mishap investigation as well as a thorough understanding of post-mishap factors will facilitate this process. Planning, and preparation as well as understanding the value of the information collected and knowing how to utilize it will yield the best results. The accuracy and value of the MOR is dependent on the medical officer‘s attentiveness to detail and fulfillment of pre-mishap-on site-and post-mishap duties. The medical officer’s responsibilities include:

(1) Having a well-organized, compact, portable mishap investigation kit.

(2) Providing adequate care to survivors and ensuring all crews are afforded the necessary medical and psychological services.

(3) Documenting the relationships at the mishap site before items are removed and impounding critical equipment and records.

(4) Ascertaining and documenting injuries and maintaining close follow-up of the injured for changes in the medical condition.

(5) Ensuring that pathological services are available, knowing the autopsy jurisdiction, getting acquainted with the local coroner and coordinating support with the Air Force’s Institute of Pathology (AFIP) for transport of victims to the morgue or transporting the team to the mishap site.

(6) Performing adequate physical exams, distributing and collecting the post-mishap questionnaires and 72-hour medical history as well as drawing the appropriate labs and performing the necessary radiological studies.

(7) Performing timely witness interviews and correlating that information with photographs, and diagrams of the mishap site.

(8) Understanding crash survivability, impact forces, restraint systems, survival equipment, and egress and rescue procedures.

(9) Knowing the effect that environmental conditions, such as water temperature, wind conditions and surface terrain had on the mishap and/or the injuries or survivability of the crew.

(10) Having the appropriate tools, equipment and administrative support to conduct, prepare and finalize the investigation.

3. MISHAP INVESTIGATION QUESTIONNAIRES. A number of questionnaires have been developed to assist the medical officer in gathering the necessary information to complete the MOR. These questionnaires are to be used as

facilitation tools and need only be completed if the conditions or situations indicate. Mishap investigation questionnaires include:

a. GENERAL INFORMATION QUESTIONNAIRE. Collects vital demographics, work habits, social history and training on each member involved in the mishap.

b. MEDICAL OFFICER'S INJURY QUESTIONNAIRE. Collects valuable medical information, including autopsy findings, injury patterns and laboratory and radiological results on each member involved in the mishap.

c. HUMAN FACTORS CHECKLIST. This checklist provides medical and psychological profiles for member's involved in the mishap. It may also be provided to other unit personnel at the discretion of the medical officer.

d. 72-HOUR PRE-HISTORY. Is to be provided to each member involved in the mishap and is intended to collect a detailed history of the member's life during the three days preceding the mishap. This is a mandatory form and is not to be used in place of or replaced by the Human Factors Checklist or the Medical Officer's Questionnaire.

e. ESCAPE, EGRESS QUESTIONNAIRE. Provides data on egress procedures for each member that exited the mishap vessel or was extracted as a result of the mishap.

f. RESCUE AND SURVIVAL QUESTIONNAIRE. Provides vital information on rescue procedures, as well as the rescue equipment used by the crew before, during and after the mishap.

g. SURVIVAL AND PERSONAL PROTECTIVE EQUIPMENT QUESTIONNAIRE. Provides information on survival procedures and personal survival equipment.

h. MEDICAL OFFICER'S REPORT (TEMPLATE). A printable template is provided for the medical officer to complete the final report. The medical officer MUST complete all mandatory information in the pre-printed blocks.

4. <u>INSTRUCTIONS FOR COMPLETING QUESTIONNAIRES</u>.

a. Each questionnaire should be completed for every member involved in the mishap.

b. Specify conditions particular to the member, such as actions taken before, during and after the mishap.

c. Indicate effect that actions taken by the member had upon the mishap.

d. Indicate what effect actions taken, or failed to be taken, by member had on survivability (i.e., egress procedures, escape systems, survival gear), injury patterns (i.e., cause, severity, prevention).

e. Expand, whenever possible, on the effect that actions or failed actions by each individual member had on mishap causality.

f. Describe how each event could have been prevented, modified or altered to prevent the mishap.

g. Describe how findings can be used to prevent future mishaps.

h. Make a determination on whether human factors identified in the mishap definitely contributed to the causality of injuries, rescue, egress, escape or survival efforts; were suspected as contributing factors to any phase of the mishap; or were present but had no contribution to any phase of the mishap.

i. The member's medical record should be thoroughly reviewed for any significant changes on health status; the training record should also be reviewed noting any significant lapses in egress training procedures (i.e., HEEDS/Dunker).
Note: Records must be properly secured during and after the investigations.

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GENERAL INFORMATION QUESTIONNAIRE	
Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

1. Mishap Information: include all pertinent information regarding mission and craft (aircraft/vessel).

a. Type of mission involved:

(1) Routine Patrol (scheduled): _____

(2) Familiarization: _____

(3) Search and Rescue: _____

(4) Training: _____

(5) Demonstration/Parades (static display/airshow/boat shows): _____

(6) Deployment/TAD support: _____

(a) TAD Unit: _____

(b) TAD Command: _____

(c) Deployment mishap status: _____

1. Mishap occurred during predeployment: ☐ Yes ☐ No
2. Mishap occurred _____ days into deployment.
3. Deployment scheduled to last _____ days.

b. Type of craft(s) (aircraft/vessel) involved in mishap:

(1) Type: _____

(2) Size: _____

(3) Designation: _____

(4) Model: _____

(5) Class: _____

(6) Reporting Unit: _____

(7) Command: _____

(8) Craft Status at time of Mishap:

☐ Stationary ☐ Taxi Way ☐ Hanger ☐ Runway
☐ In-flight ☐ Docked ☐ En-route ☐ Harbor
☐ Open water ☐ Embarked ☐ Disembarked ☐ Solo craft ☐ Formation

2. <u>Crew Information</u>: include all personnel involved in primary craft (aircraft/vessel) as well as any crews from secondary craft or bystanders involved in the mishap.

- Number of primary crew (aircraft/vessel) personnel involved: _____
- Number of primary crew (aircraft/vessel) personnel injured: _____
- Number of ALL personnel (bystanders/crewmembers) involved: _____
- Number of ALL personnel (bystanders/crewmembers) injured: _____

FIGURE - A

GENERAL INFORMATION QUESTIONNAIRE (con't)	
Name:	Date of Mishap:
Mishap Category:	Mishap Number:

Fill table in for all personnel involved in the mishap (use additional pages as necessary):

Name: (*Last, First, MI)*	Sex *(M/F)*	Duties:	Grade/Rank	Branch	Unit

INSTRUCTIONS FOR COMPLETING TABLE

- Indicate by * individual at controls (aircraft/vessel) at time of mishap.
- Sex: self-explanatory.
- Indicate duties, responsibilities of each crewmember including crew position at time of mishap.
- Grade/Rate: self-explanatory
- Indicate Branch of Service: I.e., CG, USN, AF, USA, RES, PHS
- Indicate both permanent and/or temporary unit.

3. COMMENTS: (make note of important events and significant findings):

" THE INFORMATION CONTAINED IN THIS QUESTIONNAIRE MAY ONLY BE RELEASED IN ACCORDANCE WITH THE FREEDOM OF INFORMATION AND PRIVACY ACT"

MEDICAL OFFICER'S INJURY QUESTIONNAIRE

Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

1. General Information:

A. Duty Status: ☐ Active Duty ☐ Reservist ☐ Civilian
B. Injury Classn: _____
C: Days Hospitalized: _____
D. Days in Qtrs: _____
E. Days Grounded (aircrew only): _____
F. Unconscious: ☐ Yes ☐ No
DURATION: _____ Hours/Days/Mins/Secs)
G. Smoking History: ☐ Yes ☐ No
_____ packs per day

2. Injuries Incurred during Mishap:

(Use additional sheets if necessary)

		ICD Code
Body Part		
Diagnosis		
Specific Cause		
Body Part		
Diagnosis		
Specific Cause		
Body Part		
Diagnosis		
Specific Cause		

3. Laboratory Test:

	Date Drawn (mm/dd/yr)	Time Drawn	Elapsed Time	Lab Used	Tissue Used	Normal Range	Method Used	Results
Carbon Monoxide								
Alcohol								
Drug Screen								
HgB/Hct								
Lactic Acid								
Glucose								
Other								

4. Urinalysis:

_____ Specific Gravity _____ Dipstick _____ Miroscopic
_____ WNL _____ Other
Elapsed time after Mishap (hours): _____

5. Radiological Results:

Performed: ☐ Yes ☐ No WNL: ☐ Yes ☐ No Comments: (enclose results of pertinent)

FIGURE - B

MEDICAL OFFICER'S INJURY QUESTIONNAIRE (Con't)

Name:	Date of Mishap:
Mishap Category:	Mishap Number:

6. Pre-existing Diseases/Effects Present at Time of Mishap:

DIAGNOSIS	Discovery Method (X)				Waivers as applicable	
	Annual Physical	Sick Call	Autopsy	Other	Authority	Date

7. Autopsy Data: Conducted by/in Presence of (Check each applicable):

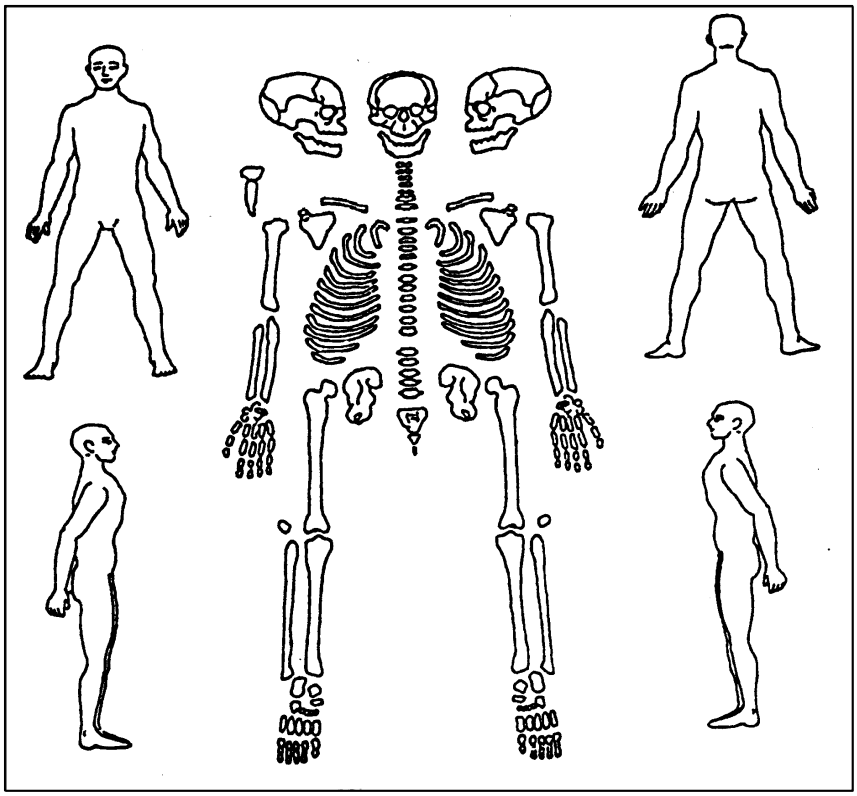
☐ AFIP PATHOLOGIST ☐ CIVILIAN ☐ PATHOLOGIST

☐ FLIGHT SURGEON ☐ OTHER Military Pathologist ☐ Other:_____

8. Injury profile: Mark or draw injury profile on diagram.

INJURY PROFILE

Mark or draw injuries where applicable



MEDICAL OFFICER'S INJURY QUESTIONNAIRE (con't)	
Name:	Date of Mishap:
Mishap Category:	Mishap Number:

9. Comments/Remarks:

10. Instruction on Completing Questionnaire:

a. This questionnaire should be completed for every member injured in the mishap or who incurred relevant medical findings.

b. Injuries - Part 2: All injuries should be listed in decreasing order of severity, using standard medical terminology to describe body parts and conditions. In fatalities the primary cause of death should be listed. Any external factor that can be reasonably concluded to have affected the mechanism of injury should be accurately described. These factors can be listed under "specific causes". (See example below)

c. ICD Codes - Part 2: ICD codes should be used to most accurately account for injuries incurred during the mishap.

Example:

Body Part		Right tibia		
Diagnosis		Spiral hairline fracture		
Specific Cause		Flexion-rotation motion/impact during egress		

d. **Laboratory Tests -** Part 3: Frozen samples of serum and urine should be retained for at least 90 days in case future use/verification is requires. The medical officer should note the importance or significance of the findings with relation to the mishap.

e. **Urinalysis -** Part 4: Self-explanatory. Add additional comments as clinically indicated to describe the presence of blood, protein, and/or status of renal function.

f. **Radiological Results** - Part 5: Radiological procedures may be required, as clinically indicated, according to the nature of the mishap, and egress/rescue procedures. In aviation mishaps involving crashes, forced egress or bailouts, spinal X-rays are required. A copy of the X-ray reports should be attached to this form.

g. **Preexisting Diseases/Defects** - Part 6: All known preexisting diseases, defects and diseases present at time of mishap should be listed. This should include all auditory and visual defects. Note the process by which these defects/diseases were identified and verify the date and conditions of any waivers issued to that effect.

h. **Autopsy** - Part 7: The medical officer should be careful to highlight all the individuals responsible for conducting or being part of the autopsy process. If the medical officer was present at the time of the autopsy or participated in the procedure this should also be noted. Any preliminary or final results should be attached to this form.

i. **Injury Profile** - Part 8: The Injury Profile diagram should provide the exact location of the injuries, abrasions, contusions, fractures, amputations and dislocations, as well as the degree and nature of burnt injuries incurred during the mishap, egress and/or rescue process. This report should be supplemented with any photographs, video or any other supporting evidence, whenever possible. Supporting information including the aforementioned photos, videos and reports should be attached to this form upon submission.

j. **Comments/Remarks** - Part 9: Use this section to add any additional material, describe injuries, explain laboratory findings, or any other information which may be related to the mishap.

" THE INFORMATION CONTAINED IN THIS QUESTIONNAIRE MAY ONLY BE RELEASED IN ACCORDANCE WITH THE FREEDOM OF INFORMATION AND PRIVACY ACT"

FIGURE - C

HUMAN FACTORS CHECKLIST	
Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

Following is a list of questions on conditions and situations prone to human-error. The medical officer may choose to ask these questions to obtain a better understanding of factors associated with or leading to the mishap.

MEDICAL -PHYSIOLOGICAL FACTORS:

- ☐ Use of alcohol or drugs
- ☐ Use of medications (prescribed/OTC); use of nutritional supplements
- ☐ Operating under stress/anxiety (hyperventilation)
- ☐ Fatigued/lack of rest/nutrition/hydration status
- ☐ Performing while ill/recent illness
- ☐ Physical fitness level/state of health
- ☐ Other

COMMUNICATION / COORDINATION FACTORS:

- ☐ Inadequate mission planning
- ☐ Failed mission brief/plan
- ☐ Failing to use /follow standard procedures
- ☐ Inadequate training
- ☐ Failing to use available resources
- ☐ Interpersonal crew conflicts
- ☐ Failed communication/coordination among crew members
- ☐ Language barrier
- ☐ Unacknowledged/misunderstood intentions

PERFORMANCE /BEHAVIORAL FACTORS:

- ☐ Failed to adequately perform (preoccupation)
- ☐ Complacency (inattention, distraction)
- ☐ Failed to follow standard operating procedures (misread, habit)
- ☐ Exceeded operational limits (over confident)
- ☐ Performed under command /peer pressure (expectations)
- ☐ Ignored safety warning parameters (misinterpretation, timing)
- ☐ Failed to adequately prioritize tasks (task saturation, judgment error)
- ☐ Inadequate knowledge of regulations/system/procedures
- ☐ Operating in non-current status/below proficiency level
- ☐ Operating under stress (anger/frustration/personal problems)
- ☐ Performance attitude (overassertive/nonassertive/failed confidence/too confident)
- ☐ Other

HUMAN FACTORS (con't)

Name:	Date of Mishap:
Mishap Category:	Mishap Number:

SUPERVISORY FACTORS:

- ☐ Failed to establish work schedule/monitor assignments
- ☐ Failed to follow/monitor compliance with regulations
- ☐ Failed to follow craft limitations per mission requirements
- ☐ Failed to monitor crew training/performance levels
- ☐ Failed to remove poor performer
- ☐ Inadequate crew skill level per mission tasking/requirements
- ☐ Failed to recognize weak procedures/increased operational risks
- ☐ Failed to communicate problems to chain of command
- ☐ Excessive operational commitments
- ☐ Lax safety supervision
- ☐ Inadequate operating standards/procedures
- ☐ Failed to establish adequate mission standards/procedures
- ☐ Poor/inadequate command attitude
- ☐ Inadequate resources/facilities
- ☐ Inadequate Human Factors training
- ☐ Failed to establish/enforce crew training
- ☐ Failed to monitor crew rest/secondary assignments

ENGINEERING FACTORS:

- ☐ Inadequate/poor arrangement of controls
- ☐ Inadequate data display
- ☐ Difficulty interpreting/reading instruments
- ☐ Workplace (anthropometric) incompatibility - hard to reach controls
- ☐ Inadequate instructions
- ☐ Inappropriate automation/excessive complexity
- ☐ Failed to use appropriate control
- ☐ Failed response to warning signal
- ☐ Failed to manual override-over reliance on automated system

ENVIRONMENTAL FACTORS:

- ☐ Over exposure to elements (hypothermia/hyperthermia)
- ☐ Experienced vertigo/loss of consciousness
- ☐ Experienced hypoxia/hyperventilation
- ☐ Weather condition exceeded minimum operational safety standards
- ☐ Inadequate preparation per weather conditions (deicing)
- ☐ Inadequate established mission parameters (night/low altitude/NVG's)
- ☐ Experienced acceleration/deceleration forces (excess)
- ☐ Experienced sudden decompression/
- ☐ Experienced air turbulence/vibration
- ☐ Cockpit/cabin compromised (smoke/fumes/fire)

"THE INFORMATION CONTAINED IN THIS QUESTIONNAIRE MAY ONLY BE RELEASED IN ACCORDANCE WITH THE FREEDOM OF INFORMATION AND PRIVACY ACT"

FIGURE - D

72 - HOUR PRE-MISHAP HISTORY

Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

This chronological account of activities, of the 72 hours preceding the mishap, should be completed by the medical officer and included as part of the analysis for each member and for other persons who may have contributed to the mishap.

1. Genera Information:

a. Age: _____

b. Date of Birth (mm/dd/yr): _____

c. Sex: ☐ Male ☐ Female

d. Marital Status: ☐ Single ☐ Married ☐ Divorced ☐ Separated

e. Leave/TAD Inforamtion:

(1) Date Last Leave Began (mm/dd/yy): _____

(2) Duration of Last Leave (days): _____

(3) Type: ☐ Regular ☐ Emergency ☐ Sick/Convalescent

(4) Date of Last TAD (mm/dd/yy): _____

(5) Duration of Last TAD (days): _____

f. Work/Rest Information:

(1) Hours Worked in Last: ☐ 24 hours ☐ 48 hours ☐ 72 hours

(2) Continuous Duty Prior to Mishap (hours): _____

(3) Hours Continuously Awake Prior to Mishap: _____

(4) Hours Slept in Last: ☐ 24 hours ☐ 48 hours ☐ 72 hours

(5) Duration of Last Sleep Period (hours): _____

(6) Last Sleep Period Was: ☐ Continuous ☐ Broken

(7) Hours between Last Meal and Mishap: _____

(8) Time in Aircraft/Vessel Prior to Mission: _____

(9) Duration of Mission before Mishap occurred: _____

2. Instructions:

a. The history should begin 72 hours prior to the time of the mishap and proceed in a chronological order. The medical officer should pay close attention to any alcohol consumption, physical activities, nutritional status (eating habits), emotional stress, personal problems, sleep habits, the use of medications/drugs and/or supplemental products (vitamins/minerals) and any other significant event affecting the member.

b. An example on completing this form is provided:

Friday: 13 Dec 2002

1800 Ate dinner at home: meatloaf, peas, rice, 2 glasses of wine, coffee and flan (custard).
1900 Relaxed and watched TV, ate popcorn and pretzels, drank 1 beer.
2300 Went to bed.

72 - HOUR PRE-MISHAP HISTORY (con't)

Saturday: 14 Dec 2002

0600 Woke up went to Gym.
0800 Showered ate breakfast: 1 egg, 2 slices of toast, orange juice and coffee.
0830 Worked at computer, read, relaxed.
0900 Worked around yard: cut grass, trim bushes pulled weeds.
1130 Ate lunch: ham and cheese sandwich, tea.
1200 Read a book, took nap, relaxed.
1700 Ate dinner: salad pizza: cheese/pepperoni -three slices, drank 2 glasses of beer.
1800 Watched television with family.
2200 Went to bed.

Sunday: 15 Dec 2002

0800 Woke up, read newspaper.
0900 Ate breakfast: glass orange juice, coffee, 2-egg ham and cheese omelet.
1100 Went to church.
1230 Lunch at friends home: 1 large steak, mashed potatoes, egg salad, and large Pepsi. Played volleyball and Frisbee with kids.
1700 Returned home, watched TV.
1900 Ate dinner at home: spaghetti and meatballs, 2 glasses of wine, salad and garlic bread.
2100 Went to bed.

Monday: 16 dec 2002

0600 Woke up, showered, left for work.
0630 Ate breakfast in Officer's Mess.
0700 Office: Reviewed papers, sent e-mails.
0730 Brief for mission.
0930 Mission: Familiarization flight with student pilot.
1100 Landed at ATC Mobile.
1130 Debrief
1200 Office: paperwork
1230 Lunch: hamburger, fries, Pepsi.
1300 Officer's meeting.
1500 Brief for SAR.
1600 Take off.
1800 Noted ECS air at high temperature, fire-warning light, deteriorating engine indicators, smoke, emergency landing, flames extinguished--no injury.
1830 Recovered by HH-60 helo.
1900 Returned to ATC Mobile, visit health services clinic.

(Continue on additional sheets as necessary)

c. **NOTE:** Include page 1 of this form and the completed chronological questionnaire as part of the final Medical Officer's Report

" THE INFORMATION CONTAINED IN THIS QUESTIONNAIRE MAY ONLY BE RELEASED IN ACCORDANCE WITH THE FREEDOM OF INFORMATION AND PRIVACY ACT"

FIGURE - D

72 HOUR PRE-MISHAP HISTORY
CHRONOLOGICAL QUESTIONNAIRE

Name:	Rate/Rank:
Duty/Position	Mishap Category:
Date of Mishap:	Time of Mishap:

This report **MUST** accompany the 72-hour General Information Page

DAY: _____ : _____

0500 hrs: _____
0600 hrs: _____
0700 hrs: _____
0800 hrs: _____
0900 hrs: _____
1000 hrs: _____
1100 hrs: _____
1200 hrs: _____
1300 hrs: _____
1400 hrs: _____
1500 hrs: _____
1600 hrs: _____
1700 hrs: _____
1800 hrs: _____
1900 hrs: _____
2000 hrs: _____
2100 hrs: _____
2200 hrs: _____
2300 hrs: _____
2400 hrs: _____
0100 hrs: _____
0200 hrs: _____
0300 hrs: _____
0400 hrs: _____

COMPLETED FOR ALL THREE DAYS PRECEEDING MISHAP
CONTINUE ON ADDITIONAL SHEETS

"THE INFORMATION CONTAINED IN THIS QUESTIONNAIRE MAY ONLY BE RELEASED IN ACORDANCE WITH THE FREEDOM OF INFORMATION AND PRIVACY ACT"

ESCAPE - EGRESS QUESTIONNAIRE

Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

1. Location of Individual in craft/vessel: *(Check appropriate box)*

a. General:

☐ Cockpit ☐ Nav/Eng Compartment ☐ Cabin/Pax Compartment ☐ Outside on Ground
☐ On Deck ☐ On Bridge ☐ Outside in Flight (Hoisting) ☐ Below Decks ☐ Other

b. Longitudinal Location: ☐ Forward ☐ Center ☐ Aft ☐ Unknown

c. Lateral Location: ☐ Center ☐ Left/Port ☐ Right/Starboard ☐ Unknown

d. Direction Facing: ☐ Forward ☐ Aft ☐ Sideward ☐ Unknown

e. Use of Seat: ☐ In seat ☐ Not in seat ☐ In Bunk/Litter ☐ Unkown

2. Escape Data: *(Check appropriate box)*

a. Egress Attempted: ☐ Yes ☐ No ☐ Unknown

b. Aircraft/Vessel Abandoned: ☐ NA - No Actual/Successful Egress ☐ After Impact/Landing ☐ Unkown

c. Escape Method: *(Check only one method and specify from chosen selection)*

☐ Accomplished (free of aircraft/vessel)
☐ Definitely Not Attempted
☐ Other Escape
☐ Underwater Egress
☐ Escape Unassisted (not emergency egress)
☐ Blown/Thrown Out
☐ Standard Emergency Abandon Ship
☐ Vessel to Vessel Raft Transfer
☐ Suspected Escape
☐ Unknown if Attempt was Made/Accomplished
☐ Standard Emergency Ground Egress
☐ Other Unsuccessful Escape Attempt
☐ Carried/Assisted Out
☐ Jumped/Fell from A/C (airborne)/Vessel (underway)
☐ Escape Method Unknown

d. Sequence of Actions: *(Describe*)

_____
_____
_____
_____
_____
_____

e. Intent for Escape: *(Check appropriate box)*

☐ Intentional ☐ Unintentional/Self-induced ☐ Intent Unknown
☐ Unintentional/Mechanically Induced ☐ Unintentional/Other Induced

f. Order of Escape: _____ of _____ members.

g. Number of Previouse: _____ escapes _____ other.

h. Exits Used: ☐ Normal Exit ☐ Emergency Exit ☐ Other ☐ Unknown

ESCAPE - EGRESS QUESTIONNAIRE (con't)

Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

3. Cockpit/Bridge/Cabin Condition Relative to Individual's Location: *(check appropriate)*

☐ No Damage ☐ Damaged-Definitely Habitable ☐ Damage Unknown ☐ Damaged-Probably Habitable
☐ Damaged-Probably Not Habitable ☐ Destroyed-Definitely Not Habitable

4. Emergency Egress Lighting Systems: *(check appropriate)*

☐ Installed ☐ Not Installed ☐ Unknown ☐ Aided in Location of Exit ☐ Not Seen
☐ Did Not Aid in Location of Exit ☐ Not Applicable ☐ Unknown Effect in Locating Exit

5. Aircraft/Vessel Parameters at Time of Escape: *(if unknown, so indicate)*

Aircraft:

Altitude(FT): _____ (MSL)/ _____ (AGL) _____

Velocity: Airspeed (KTS): _____ **Groundspeed(KTS):** _____

Sink Rate (FT/MIN): _____ Climb Tate (FT/MIN): _____

Pitch (DEG): _____ ☐ Up ☐ Down *(Check one)*

Pitch Rate (DEG/SEC): _____ ☐ Up ☐ Down *(Check one, unless Rate=0)*

Bank Angle (DEG): _____ Direction: ☐ Right ☐ Left *(Check one, unless Rate=0)*

Roll Rate (DEG/SEC): _____ ☐ Right ☐ Left *(Check one, unless Rate=0)*

Yaw (DEG) _____ Direction: ☐ Right ☐ Left *(Check one)*

Yaw Rate (DEG/SEC): _____ ☐ Right ☐ Left *(Check one, unless Rate=0)*

Forces: Normal (G's)_____ ☐ Up ☐ Down *(Check one)*

Lateral (G's) _____ ☐ Right ☐ Left *(Check one)*

Other: *(Check all that apply)* ☐ Nose Down Spin ☐ Flat Spin ☐ Oscillating Spin
☐ Upright on Ground ☐ Inverted ☐ Tumbling ☐ Mushing
☐ Upright on Water ☐ Disintegrating ☐ Rolling ☐ Under Water/Sinking
☐ Other: *(Describe)*

_____
_____
_____
_____

Vessel:

Velocity (KTS) _____

Water Conditions: _____ ft seas. ☐ Rough ☐ Calm ☐ Unknown

Attitude: ☐ Normal ☐ Underwater/Sinking ☐ Listing ☐ Rolling ☐ Capsized

Direction/Position: ☐ to Port ☐ to Sea ☐ In Harbor ☐ at Pier
☐ Anchored

ESCAPE - EGRESS QUESTIONNAIRE (con't)

Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

6. Egress Problems: *(See Instructions)*

PHASE: B = before D = during A = after (egress)

TYPE: W = water G = ground

PROBLEM	PHASE	TYPE
Locating hatch/window exit release mechanism		
Mechan. releasing hatch/window exit		
Reaching hatch/window exit		
Confusion/Panic/Disorientation		
Darkness/Loss Visual Reference		
Fire/Smoke/Fuel		
Anthropometric Problem		
Obstruction		
Obstruction clothing/equipment/injuries		
Injuries: specify body area affected		
Hypothermia		
Inrush of Water		
Loss of Consciousness		
Environment wind/water/light(darkness)		
Entanglement		
Other		

7. Explanation: _____

8. Reasons for escape: *(indicate all that apply)*

☐ Fire/Explosion/Smoke ☐ Out of Fuel ☐ Loss Control ☐ Water Impact ☐ Engine Failure

☐ Ground/Structure Impact ☐ Structural failure ☐ SHIPOPS Failure ☐ Collision

☐ Other ☐ Capsizing/sinking ☐ Unknown

9. Communications: *(Before egress)*

☐ Distress signal Transmitted ☐ Position Fix Transmitted ☐ Emergency IFF ☐ Unknown ☐ None

FIGURE - E

ESCAPE - EGRESS QUESTIONNAIRE (con't)	
Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

10. Remarks:

a. Complete this questionnaire for each person who successfully egressed as part of the mishap event and also for each person who unsuccessfully tried to egress.

b. Location, part 1: indicate where this person was located at the time of the mishap by checking one selection from part A. Amplify with one selection each from parts B through E, as indicated.

c. Escape Method, part 2 (A-C): indicate the type of escape and amplify from the adjacent selections. Use only the selections associated with the particular method.

d. Sequence of Actions, part 2 D: list sequence of preparatory actions accomplished by this individual before actual egress. Examples: visor down, lap belt/shoulder harness straps adjusted, seat moved/adjusted, tightened mask, crew alert, etc.

e. Cabin/Cockpit/Bridge Conditions after Impact, part 3: check the one selection that best describes the condition of the cockpit/cabin/bridge.

f. Emergency Egress Lighting, part 4: indicate the presence or absence of emergency lighting and effect, contribution to the egress/escape procedure.

g. Vessel Parameters at time of Escape, part 5: indicate all pertinent parameters/conditions and specify/expand on any possible impact, both positive and negative contributions these conditions would have had on egress procedures.

h. Egress Problems, part 6: indicate the problem encountered and explain in the remarks section the nature, effect and result each problem had on the egress procedures. Specify the phase of the egress action the problem was encountered and the type of egress with the problem. Indicate difficulties in finding, reaching or releasing the emergency release mechanisms and whether this was caused by injuries obstructions caused by equipment, clothing, attitude of craft, external or internal forces, entanglement, etc. Be specific and detailed, part 7. Use additional sheets if necessary.

i. Reasons for Escape, part 8: indicate all the reasons, which apply.

j. Communications, part 9: indicate whether emergency procedures were followed in relating position, transmitting distress signal before initiating egress.

"THE INFORMATION CONTAINED IN THIS QUESTIONNAIRE MAY ONLY BE RELEASED IN ACCORDANCE WITH THE FREEDOM OF INFORMATION AND PRIVACY ACT"

RESCUE AND SURVIVAL QUESTIONNAIRE

Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

1. Conditions Prevailing at Survival/Rescue Site:

a. Temperature/Winds/Waves (if widely variable, give range):

Water Temp: _____ deg F Air Temp: _____ deg F

Surface Wind: _____ kts _____ deg

Wave Height: _____ ft _____ deg (mag) Wave Freq: _____ per min

b. Terrain: *(Check appropriate box)*

☐ Open Ground ☐ Woods/Jungle ☐ Mountains

☐ Desert ☐ Water ☐ Ice/Snow

☐ Swamp ☐ Other ☐ Unknown

c. Weather: *(Check appropriate box)*

☐ Clear ☐ Overcast ☐ Fog

☐ Rain ☐ Snow ☐ Sleet

☐ Hail ☐ Other ☐ Unknown

2. **Time Lapse Sequence for Actual Rescue Vehicles/Personnel:**

	Actual Time (24)hour) Local Clock	Elapsed Time from Mishap	Light Conditions (X)			
			Dawn	Day	Dusk	Night
Rescue personnel notified						
Rescue vehicle departed						
This individual located by rescue personnel						
This individual physically reached by rescue vehicle personnel						
This individual actually in rescue vehicle or rescue attempt abandoned						
Rescue completed (Person returned to station, hospital, etc.)						

3. Time this Individual Spent:

a. In water: _____ hrs _____ min

b. In raft: _____ hrs _____ min

c. On land: _____ hrs _____ min (unsheltered and/orexposed)

FIGURE - F

RESCUE AND SURVIVAL QUESTIONNAIRE (con't)

Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

4. Personnel/Vehicles Performing Rescue:

a. Vehicle Performing Actual Pickup of This Person:
Organization: _____ Type/Model: _____
Location When Alerted: _____
Duty When Alerted: _____
Distance to Victim(s) (miles): _____ straight line _____ actual miles traveled.

b. SAR Report Information: SAR Report Attached ☐ Yes ☐ No
Report # _____ Available from: _____

c. Did Rescue Personnel Leave Vehicle to Assist in Rescue: ☐ Yes ☐ No
If yes, how: ☐ Jumped ☐ Lowered by Hoist ☐ Descended Line/Ladder/Net
☐ Into Water/Onto Ground (no jump) ☐ Other _____

5. Personnel/Vehicles Assisting/Attempting Rescue:

Organization: _____ Type/Model: _____
Problems: ☐ Yes ☐ No (If yes, explain in remarks)
List additional vehicles participating/standing by in remarks or attach additional sheet.

6. Rescue Alerting Means (use numbers to show sequence):

☐ Witnessed ☐ Crash Phone ☐ Other Telephone ☐ Radio MAYDAY Call
☐ Survival Radio ☐ Other Radio Report ☐ Radar Surveillance ☐ Overdue Report to SAR
☐ Airborne Rapid Relay ☐ Visual Signaling Equipment ☐ Survivor Report ☐ Loss of Radio Contact
☐ Smoke/Fire/Crash Scene ☐ Audio Signaling Equipment ☐ Other (describe) _____

7. Alerting Communications Problems :

☐ Poor Radio Reception ☐ Telephone Line Busy ☐ Poor Radio Discipline ☐ Acft Radio/Iff Eqpt Inop
☐ Poor Radio Procedures ☐ Language Problems ☐ Incompatible Radio Frequency ☐ None
☐ Other ☐ IFF

8. **Delays in Departure of Rescue vehicle(s):**

☐ Vehicle Operator Not Available ☐ Vehicle Not Ready ☐ Vehicle Crew Not Available
☐ Communication Breakdown ☐ Completing Previously Assigned Duties
☐ Lack of Information on Crash Site ☐ Nature of Terrain ☐ Nature of Terrain
☐ None ☐ Other _____

RESCUE AND SURVIVAL QUESTIONNAIRE (con't)

Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

9. Rescue Vehicle Problems En Route:

☐ Headwind ☐ Poor Visibility ☐ High Sea State ☐ Mechanical Problems ☐ Nature of Terrain
☐ Rescuers Lost ☐ Weather ☐ Other Obstructions (fences, etc.) ☐ None
☐ Other (specify) _____

10. Problems in Locating Individual or Keeping Individual in Sight:

☐ Heavy Seas ☐ Trees ☐ Fog/Clouds ☐ Precipitation ☐ Darkness ☐ Radio Interference
☐ Loss of Radio/Radar Contact ☐ Inadequate/Improper Search ☐ Confusion Due to Other Lights
☐ Malfunction of Directional Equipment ☐ Lack of Correct Information on Location of Survivor
☐ Inability to Visually Distinguish Survivor from Terrain ☐ Survivor's Failure to Use Signaling Equipment
☐ None ☐ Other (specify) _____

11. Rescue Equipment Used: *(use numbers to show sequence)*

☐ Rescue Strap ☐ Seat ☐ Cargo Net ☐ Rope ☐ Life Ring ☐ Basket ☐ Boom Net
☐ Davit ☐ Raft ☐ Webbing Cutters ☐ Grapnel ☐ Boarding Ladder ☐ Makeshift Carrier/Support
☐ First Aid Equipment ☐ Forest Penetrator ☐ Helicopter Platform ☐ Stretcher
☐ Cable Cutter ☐ Helicopter Rescue Boom ☐ Knife/Axe/Saw ☐ Billy Pugh Net
☐ Other (describe)

12. Survival Problems Encountered by This Person: *(number in the sequence experienced)*

☐ Inadequate Flotation Gear	☐ Inadequate Cold Weather Gear
☐ Lack of Signaling Equipment	☐ Lack of Other Equipment
☐ Entanglement	☐ Dragging
☐ Entrapment in Aircraft	☐ Unfamiliar with Procedure
☐ Unfamiliar with Equipment	☐ Confused, Dazed, Disoriented
☐ Incapacitated by Injury	☐ Poor Physical Condition
☐ Exposure (Heat, Cold, Sunburn)	☐ Fatigue
☐ Weather	☐ Topography(Swamps, Mountains, Deserts, etc.)
☐ Darkness	☐ Thrown Out of Raft
☐ Hampered by Helo Downwash	☐ Problem Boarding Rescue Vehicles
☐ Thirst	☐ Hunger
☐ Insects, Snakes, Animals, etc.	☐ Sharks
☐ Proximity to Ship (_____Yards)	☐ Hampered by Injuries
☐ None	☐ Other(Describe) _____

FIGURE - F

RESCUE AND SURVIVAL QUESTIONNAIRE (con't)	
Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

13. Problems that Complicated Rescue Operations:

- ☐ Failure of Rescue Vehicle (Mechanical Problems)
- ☐ Failure of Rescue Equipment (Hoist, etc.)
- ☐ Inadequacy of Rescue Personnel (Know/Training)
- ☐ Inadequate Medical Facilities
- ☐ Rescue Crewman Assist Hesitancy
- ☐ Entrapment in Aircraft
- ☐ Physical Limitations of Person Being Rescued
- ☐ Rescue Vehicle Accident
- ☐ Communications Problems, etc.
- ☐ Interference from Other Vehicles
- ☐ Weather
- ☐ Weight/Drag Problem
- ☐ Floating Debris
- ☐ Awaiting Further Attempts by Other Rescuers
- ☐ Inadequate Rescue Procedures/Pre-Mishap Plans
- ☐ Poor Suitability of Rescue Equipment
- ☐ Poor Coordination of Rescue Efforts
- ☐ Inadequacy/Lack of Rescue Vehicle
- ☐ Inadequacy/Lack of Rescue Equipment
- ☐ Inadequate Medical Equipment
- ☐ Vehicle Operator Factor (Poor Procedures)
- ☐ Fire/Explosion
- ☐ Physical Limitations of Rescue Personnel
- ☐ Carelessness of Rescue Personnel
- ☐ Topography (Rough Seas, Mountains)
- ☐ Victim Pulled Away by External Forces
- ☐ Darkness
- ☐ Hampered by Personal/Survival Equipment
- ☐ Primary Rescuer Delayed
- ☐ Hampered by Helicopter Downwash
- ☐ Poor Availability of Rescue Equipment
- ☐ Poor Survivor's Techniques
- ☐ Inadequate Training of Rescue
- ☐ None
- ☐ Panic/Inappropriate Actions of Person Being Rescued
- ☐ Inadequate Knowledge of Personal Equipment Releases/Actuators
- ☐ Other (describe) _____

_____

_____

14. Individual's Physical Condition:

	During Rescue *(Check one)*	After Rescue *(check one)*
1. Fully Able to Assist		
2. Partially Able to Assist		
3. Immobile or Unconscious		
4. Fatal on Recovery-Due to Injuries		
5. Fatal on Recovery-Drowned		
6. Recovered Alive-Died From Injuries		
7. Lost During Rescue Attempt-Apparently Injured or Drowned		

RESCUE AND SURVIVAL QUESTIONNAIRE (con't)	
Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

15. Remarks: *(Indicate item referred to. Continue on separate sheet , if necessary)*

Submit this questionnaire on each survivor who was rescued as a result of a search and rescue (SAR) operation.

1. More than one condition may prevail under sections A, B, and C.
2. Report all times as local. Elapsed time begins from the moment rescue personnel are first notified. The length of time that a survivor is exposed to environmental hazards before aid arrives is critical in determining survivability.
3. A total of A plus B plus C should represent total time from egress until rescue. Time in a raft is not part of time in the water. Anytime the individual enters the water (abandons his raft) should be included in section A.
4. This section pertains only to the vehicle that performed the actual rescue. NOTE: title of organization effecting the rescue is, e.g., police department, etc., as well as the name and address of participating civilians, should be listed. The rest is self-explanatory.
5. Refers to vehicles other than that listed in number 4 that participated or could have participated in a rescue attempt. This is important in determining availability of resources.
6. Indicate how rescuers/units were alerted to the need for a rescue effort.

7-10. Refers to problems affecting rescue operations. Fill out accordingly.

11. List all rescue equipment utilized.
12. List all conditions that presented a hazard to the survivor.
13. The problems and conditions listed here should be checked as indicated. Any condition, which presents a potential problem during a rescue operation today, may represent the loss of life in a future rescue effort.
14. Check all conditions concerning survivor's/victim's condition.
15. Remarks: Self-explanatory.

"THE INFORMATION CONTAINED IN THIS QUESTIONNAIRE MAY ONLY BE RELEASED IN ACCORDANCE WITH THE FREEDOM OF INFORMATION AND PRIVACY ACT"

FIGURE - G

PERSONAL PROTECTIVE EQUIPMENT QUESTIONNAIRE (con't)	
Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

Mark with an X in the appropriate box. Note any irregularities in the remarks section.

Designation	Required	Optional	Available	Utilized	Type/Model
Helmet/Neoprene					
PFD (personal flotation device)					
Survival vest					
Strobe light					
Signal Mirror					
Whistle					
Rain Gear					
Boat shoes					
Gloves/inserts/cold weather					
Goggles/sunglasses					
Knife					
Boots (insulated, safety, waterproof)					
Coveralls (anti-exposure)					
Balaclava					
Watch cap					
Personal EPIRB					
Underwear (reg, thermal, polar)					
Socks (reg, thermal)					
Dry suit/MSD900					
Signaling Devices:					
Mark 79					
Mark 124					
Other Equipment:					
Oxygen mask, regulator					
Life raft					
Survival Kit					
Restraint System (lap belts, shoulder harness)					

PERSONAL PROTECTIVE EQUIPMENT QUESTIONNAIRE (con't)	
Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

Remarks:

INSTRUCTIONS

Submit this questionnaire on each survivor who was rescued as a result of a search-and-rescue (SAR) operation.

1. Indicate the availability of equipment, knowledge of use, operational training, working condition.
2. Indicate equipment, which may have assisted in rescue/survival, had it been available.
3. Make note of special equipment, seasonal clothing and gear (i.e., 3-layer cold weather gloves; layer1 or layer 2 thermal underwear; polar fleece, etc.).
4. Obtain list of standard operating equipment for particular aircraft/vessel and cross check against equipment available/used at time of mishap.
5. Be specific as to type, model, number of equipment.
6. Note any modifications to standard equipment.
7. Note use of any personal, unauthorized gear, equipment and impact on rescue, survival, and/or mishap.

" THE INFORMATION CONTAINED IN THIS QUESTIONNAIRE MAY ONLY BE RELEASED IN ACCORDANCE WITH THE FREEDOM OF INFORMATION AND PRIVACY ACT"

FIGURE - H

MEDICAL OFFICERS'S MISHAP REPORT (MOR)	**Part - 1**
Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

USE ADDITIONAL SHEETS OF (PART -1) IF NECESSARY	Page _____of_____

MEDCIAL OFFICER'S MISHAP REPORT (MOR)	**Part - 2**
Name:	Date of Mishap:
Rate/Rank:	Mishap Category:
Duty/Position:	Mishap Number:

Medical Officer's Name:	Date Report Submitted:
Rank/Grade:	E-mail Address:
Phone Number:	Hours Spent on Investigation:

"THE INFORMATION CONTAINED IN THIS REPORT MAY ONLY BE RELEASED IN ACCORDANCE WITH THE FREEDOM OF INFORMATION AND PRIVACY ACT"	(Final) Page _____of_____

FIGURE - H

MEDICAL OFFICERS'S MISHAP REPORT (MOR)

INSTRUCTIONS

The Medical Officer should submit this report as part of the mishap investigation whenever any of the following factors apply:

1. Human factor error is suspected as part of the investigation.
2. Personal injuries or other significant medical findings result from the mishap.
3. Egress from an operational aircraft/vessel has occurred, attempted whether successful or not.

The MOR should include all pertinent information and supporting documentation. However, information gathered in the following questionnaires should constitute the basis for the summation, conclusions and recommendations formulated in the MOR.

1. General Information Questionnaire
2. Medical Officer's Injury Questionnaire
3. Human Factors Checklist
4. 72-Hour Pre-Mishap History
5. Escape-Egress Questionnaire
6. Rescue and Survival Questionnaire
7. Utilize Part -1 as initial page of report and for additional pages if needed, provide current page number and total pages of report at the bottom of the form. (example: Page 1 of 5)
8. Part - 2 is to be used for the final page of the MOR, provide total pages in report. (example: Page 5 of 5)

Note: Aforementioned questionnaires are inclusive to Enclosure (3) of the Safety and Environmental Health Manual, COMDTINST M5100.47 (series)

MISHAP BOARD APPOINTMENT, COMPOSITION AND PROCEDURES.

1. Mishap Board Appointment and Composition. A mishap board shall be appointed as soon as practicable to analyze each Coast Guard mishap.

   a. Class A and Class B Commandant Mishap Boards (MAB). Commandant (G-WKS) is the appointing and convening authority for all Class A and Class B Mishap Analysis Boards. Commandant (G-WKS) may delegate this responsibility to the reporting custodian or an officer in the chain-of-command senior to the custodian if it is deemed that a Commandant Board is not warranted. In these cases, Commandant (G-WKS) will specify the scope and requirements of the investigation. These MABs may vary in composition according to the seriousness/complexity of the mishap and the type of report required. Commandant (G-WKS) will determine the composition of the MAB. Generally, Class A and Class B mishap boards are comprised of the following membership (as appropriate):

      (1) A MAB President, senior to the personnel involved in the mishap and not in the mishap unit's chain-of-command. If the MAB President desires, and circumstances warrant, he/she may request replacement by a new MAB President senior to the commanding officer or operational commander. For aviation mishaps, the MAB President must be a designated aviator. For vessel mishaps, MAB President will have served as commanding officer of the same type of unit as that involved in the mishap. The MAB President will generally be selected by Commandant (G-OCA), (G-OCU), (G-OCS), or (G-SEC).

      (2) An Engineering Officer qualified in the mishap aircraft type or familiar with the class of vessel or shore facility involved. Consideration should be given to assigning a Warrant Officer for Engineering Support. Commandant (G-SEA), (G-SEN) or (G-SEC) generally chooses the engineering member.

      (3) A Medical Member or Flight Surgeon if personnel injuries are involved. See section 4 of this enclosure for medical officer responsibilities. The medical officer is generally chosen by Commandant (G-WKH).

      (4) A Flight Safety Officer qualified in the mishap aircraft type for Aviation Mishaps. This member is selected by Commandant (G-WKS-1).

      (5) For Aviation Mishaps: A Coast Guard Surface Operations representative shall be assigned when a surface vessel or boat is involved in a mishap with a Coast Guard aircraft.

      (6) For Vessel and Shore Mishaps: An MLC (kse) safety specialist familiar with mishap investigation procedures.

      (7) Aviation Standardization Instructor pilot and an enlisted Standardization member, qualified in the mishap aircraft type shall

normally be assigned for aviation mishaps.

(8) A senior AST should be assigned to all aviation mishaps involving aircrew injuries, fatalities, or incidents where aviation life support equipment was used or should have been used.

(9) Other knowledgeable personnel or technicians may be assigned as conditions warrant.

NOTE: For Class B mishaps, where Commandant (G-WKS) does not convene an MAB, the composition of the unit level investigation board shall be directed by the commanding officer. Ad hoc members from outside the mishap unit maybe requested and will be provided by Commandant (G-WKS).

b. Class C and Class D Unit Mishap Boards. The cognizant commanding officer shall normally be the appointing and convening authority for Class C and Class D mishaps. However, for Class C or Class D mishaps deserving senior management scrutiny, Commandant (G-WKS) may convene a full or partial MAB. A written convening order is not required. A local unit investigation and submission of the results in the required mishap report is satisfactory. Depending on the circumstances these boards usually include one to three members. Board members need not be senior to the involved person-in-command. A Flight Surgeon or Medical Officer shall be assigned to mishap boards that involve injuries or human factors events.

2. Appointment of Non-Coast Guard Personnel to Mishap Boards.

a. Members from other Services/Armed Forces, the United States Public Health Service, and Flight Surgeons or medical officers are routinely assigned as board members as appropriate.

b. Designated personnel of other Armed Forces may serve as members of Coast Guard mishap boards when mishaps involve military members from other services in an exchange program, resources in which the other services have considerable expertise, or when qualified Coast Guard personnel are unavailable.

c. Technical Observers. Commandant (G-WKS) may assign additional Coast Guard, other military or civilian personnel as observers/technical experts to assist the investigation. An invited observer will not be a member of the board, but may participate in the board's investigation and analysis to the extent considered warranted by Commandant (G-WKS).

d. National Transportation Safety Board (NTSB)/Federal Aviation Administration (FAA) may request or elect to investigate or participate in, any Coast Guard mishap investigation.

3. Mishap Board Membership Prohibitions. The following personnel are prohibited from serving as members of Commandant MAB's or participating in their proceedings:

a. Members of fact-finding Bodies. Personnel who are members of the fact-finding body that is conducting the legal or administrative investigation of the

mishap.

b. Personnel or Crewmembers Involved in the mishap cannot serve as members.

c. Personnel in Unit's Chain of Command. No member of the Board will be in the direct chain of command of the unit involved in the mishap.

d. Personnel Who Have A Personal Interest. If it becomes apparent that a member of the mishap board has a personal interest in the mishap, that member shall be replaced. Normally, it will not be necessary to duplicate proceedings completed prior to the change in membership. The new member shall be thoroughly indoctrinated concerning all aspects of prior proceedings before the analysis is continued.

4. Overview of the Mishap Investigation and Analysis Process. The following is a broad outline of the mishap investigation and analysis process.

a. The Basic Examination. The initial investigative work where information is collected from the field and from witnesses, records, autopsy, etc. This investigation also covers the examination of management and supervisory processes involved.

b. Analysis of the Evidence. A list is made of possible scenarios (theories) that are supported by facts. The theories are tested. If further information is necessary to either prove or disprove a theory, then this information is obtained.

c. In-depth Investigation. As the investigation narrows the probable scenarios, there may be the need for information that can only be obtained by detailed disassembly of components and/or laboratory analysis.

d. Final Analysis. Once all the possible information that has been gathered, the MAB must determine the cause factors or the most probable cause factors. In almost every mishap there are going to be anomalies that cannot be explained. The preponderance of information takes precedence. Not everything must be proven beyond a shadow of a doubt. Often, the most likely causes are all that can be cited. If the information shows that a hazard may have caused the injury to personnel or property damage, then it should be corrected.

e. Recommendations. Recommendations are feasible solutions related to the causes of the damage, fatalities, or injuries in the mishap sequence of events. Recommendations should be short, concise statements requiring no explanation and follow in a natural sequence after the analysis, conclusion, findings, etc.

5. Witness Statements. Investigators may take statements from all individuals concerned with the mishap or who were eyewitnesses. A promise of confidentiality may be given to any witness who the mishap investigator, in his/her discretion, determines should be extended such a promise. These promises should be given only as needed to ensure forthright cooperation of a witness and not given on a blanket basis to all witnesses. Individuals interviewed by the MAB will not testify under oath. If a witness is granted a promise of confidentiality by the MAB, they should be

advised their statement (oral or written) will be used for safety only and will be protected by the safety investigation privilege from disclosure or use in the event of administrative, punitive or legal actions. Refer to enclosure (10) of this manual for further discussion of confidentiality.

a. This assurance is given to obtain complete and candid information about the circumstances surrounding the mishap. Without this assurance, a witness might withhold certain important information by invoking constitutional rights of a self-incriminating nature. As a result, the actual mishap causal factors would remain hidden, curtailing effective mishap preventive measures. Witnesses are not limited to testimony acceptable to a court, but may be invited to express personal opinion or to speculate as to the probable mishap causal factors.

b. These promises must be explicit and not implied from the investigator's status or function. Whenever a witness gives a statement pursuant to a promise of confidentiality, it shall be documented as described in Enclosure (2) and (10). These promises should be given only as needed to ensure forthright cooperation of a witness and not given on a blanket basis to all witnesses. In each instance, the promise of confidentiality shall be strictly limited to only the information provided directly by the witness to the safety investigation. The witness will be told that the promise does not extend to testimonial information provided to other investigations, even if it is the same information.

c. All those with access to privileged reports and resulting products must ensure the restrictions on handling mishap information are enforced. It is the responsibility of the safety staff to ensure individuals working with, or having access to such materials are knowledgeable of the limited use and the required protection of such materials. All levels throughout the mishap investigation and review process must respect the overlying principle of safety privilege and confidentiality.

d. Do not advise witnesses of their Article 31, UCMJ or 5th Amendment Rights.

e. Do not have witnesses testify under oath or give sworn testimony. Ensure witnesses understand they are obliged to give honest, good faith statements.

f. Verbatim transcripts of interviews will not be made. The report should rely on interviewer's notes or summaries of interviews.

6. Promise of Confidentiality. Where a promise of confidentiality has been extended a Witness Promise of Confidentiality Advisory form (See Figure 2-1 in Enclosure (2)) must be signed and included with the statement and must be read onto all tape recordings of interviews:

a. Where a promise of confidentiality has been extended summaries of witness interviews must have the Witness Statement--Promise of Confidentiality Advisory form attached.

b. A list of witnesses interviewed shall be included in the MAR and it should indicate whether each witness was granted confidentiality.

c. Only members of the mishap investigation (MAB, the unit permanent mishap board or a safety officer) may offer promises of confidentiality to witnesses. Accordingly, all such statements are PRIVILEGED and are protected from disclosure to unauthorized personnel.

NOTE: Select only meaningful statements and information to include in MAR. *It is not necessary to publish every statement taken from every individual interviewed.* Place the selected statements of each individual together in chronological order with the earliest on top to make it easier to compare the individual's impressions.

NOTE: Failure to observe the prohibitions and mandatory provisions of this enclosure by military personnel may be a violation of Article 92, *Uniform Code of Military Justice* (UCMJ). Violations by civilian employees may result in administrative disciplinary action without regard to applicable criminal or civil sanctions for violations of related laws.

Privileged safety information shall not be used to support disciplinary or administrative action, in determining the misconduct or line-of-duty status of any personnel before any evaluation board. Nor shall this information be used to determine liability in claims for or against the Government.

7. Access to Witnesses. Safety investigators may need frequent access to or multiple interviews with participants in a mishap. The MAB shall have priority access to the wittiness over all other investigation boards. This priority access will ensure the MAB hears the initial recollections and impressions from the witnesses. The Commanding Officers will make all participants available to investigators upon request of the MAB president. The MAB president will advise the Commanding Officer when participants are no longer needed. Safety investigators make no determinations regarding the fitness of participants to be returned to normal duties.

8. If the MAB suspects that a member may have committed an offense under the UCMJ, the MAB shall contact Commandant (G-WKS) for guidance before conducting or continuing the interview of that member. Commandant (G-WKS) shall contact Commandant (G-LGL) to discuss whether the safety information or the military justice concerns take precedence. Commandant (G-WKS) shall instruct the MAB president to either cease or continue interviewing the individual.

9. Medical Officer Responsibilities. Examinations will be recorded and reported by the medical officer using The Medical Officer’s Report in Enclosure (3). Examinations should be as complete as the examinee's condition and other circumstances permit.

   a. Survivors shall be treated/examined at the first opportunity. Blood and urine tests are required for all class A and B mishaps, and for class C and D mishaps if human physiological factors are suspected. Samples shall be taken from military members as soon as possible after the mishap. Laboratory tests are listed on Form A, Section II of the Medical Officer's Report. See enclosure (3), Figure 3-1 of this manual. Label the specimens with name, SSN, date and time taken. Specimens should be prepared and stored as required by the receiving medical laboratory. Samples needed from each person are as follows:

      (1) Blood, two "red top" tubes, 10 ml each.

(2) Urine, minimum of 50 ml.

b. Additionally, testing after a mishap may also be required for civilian employees. Contact your servicing civilian personnel office for guidance on civilian testing procedures.

c. All personnel involved in class A and class B mishaps shall receive a complete physical examination by a military medical officer prior to returning to full duty. Not only should the examination cover obvious injuries, but also consider future developments, e.g., x-rays of back and neck, in the case of hard aviation landings, etc. This examination shall be recorded on Standard Forms 88 and 93, and these forms shall be included in the Medical Officers Report. See enclosure (3) of this manual.

d. Deceased Members. Remains should be taken into custody, covered, protected and transported to a safe holding, if necessary, until released to the custody of the medical officer/Flight Surgeon. Do not allow remains to be photographed by non-investigators.

10. Autopsies.

a. Purpose of Autopsies. It might be impossible to determine the causal factors in a fatal mishap unless autopsies are performed. Fatal mishaps have been caused by hypoxia, toxic gas, disabling occurrences such as heart attacks and other physical disabilities that can only be determined by autopsy. Discovery of these physical factors not only can determine the true causal factors, but can also provide medical authorities with information for the establishment of future personnel physical requirements. Autopsies also provide program managers and design engineers with information for improving the crash survivability of cockpits, cabins and compartments.

b. Authorization to Perform Autopsies. The authorization to perform and autopsy in the event of a fatal mishap may involve one or more of three parties; the next of kin, local civil authorities and the Commanding Officer. If death occurs on board a Coast Guard unit, and if the state has not retained concurrent legal jurisdiction at that unit, then the commanding officer may authorize an autopsy. Under these circumstances, the permission of the next of kin is not required; nevertheless, it is desirable that every effort be made to obtain concurrence from the next of kin. If death occurs within the jurisdiction of civil authorities, authorization is the responsibility of the civil authority and may or may not require permission of the next of kin, depending on local law. Commanding Officers must be familiar with the reasons that require an autopsy and, where responsibility for authorizing an autopsy rests with local authorities, should advise those authorities of the need for an autopsy.

c. Personnel to Perform the Autopsy. Whenever possible, an autopsy should be performed by personnel from the Armed Forces Institute of Pathology (AFIP). These personnel are available on short notice to assist Coast Guard MABs. To arrange AFIP assistance in performing an autopsy, contact Commandant

(G-WKH). If AFIP is unavailable, a qualified Pathologist should perform the autopsy.

d. Autopsy Reports. The report of an autopsy shall be prepared in the original with three copies plus any additional copies needed for the medical officer's files. The original and two copies shall be forwarded as a part of the Medical Officer's Report. The third copy will be forwarded to the Armed Forces Institute of Pathology, Washington, D.C. 20305.

11. MAR Preparation and Routing. A formal Mishap Analysis Report (MAR) shall be submitted for every Commandant appointed MAB. Other reports are considered informal reports. See Enclosure (2) to this manual for information and guidance on preparing and routing MAR's.

12. Time Limits. Timely review of formal MAR's is a critical process of preventing future mishaps. Delays at this stage can result in further loss and/or injury.

a. The MAB President shall submit the MAR to Commandant (G-WKS), via the commanding officer and the appropriate chain of command, **within 21 days** after the MAB completes their on-site investigation and analysis. Extension of Deadlines must be approved by Commandant (G-WKS).

b. Unit Commanding Officer shall notify Commandant (G-WKS) when finished. G-WKS shall advise endorsing chain of the associated deadlines and requirements for timely review via message.

NOTE: No additional copies of the MAR shall be made without the express permission of Commandant (G-WKS).

c. MAR reviewers shall review, endorse and forward the MAR via the chain of command **within 14 days of receipt**.

13. Delays. Timely dissemination of mishap information is critical to the Coast Guard Safety Program and very important to personnel in the field. In the event that the investigation cannot be completed and/or the report cannot be forwarded within the prescribed period, the responsible member shall notify Commandant (G-WKS) to request an extension. Reviewers should expect notification by message, through the chain of command, of missed deadlines.

FORMAT AND DIRECTIONS FOR COAST GUARD AVIATION MISHAP MESSAGE

FM (UNIT NAME)
TO COMDT COGARD WASHINGTON DC//G-WKS/G-OCA/G-SEA//
AIG EIGHT NINE ZERO SEVEN (Aviation mishaps of interest to all aviation units)
AIG EIGHT NINE NINE NINE (Aviation mishaps involving ship/helo operations)
AIG FOUR NINE THREE FOUR (Aviation mishaps involving small boats or hoisting operations)
(CO's should readdress msgs to deployed crews, as appropriate)
(Add MLCA (kse) and MLCP (kse) if personnel injury or casualty involved)
(Other Addressees as appropriate)
BT
UNCLAS FOUO //N03750//
//
WHAT FOLLOWS MAY CONTAIN PRIVILEGED SAFETY INFORMATION.
USE FOR MISHAP PREVENTION PURPOSES ONLY.
//
SUBJ: AIRSTATION____, AIRCRAFT TYPE AND OPMODE_____, CLASS__ MISHAP
(**NOTE**: Information in SUBJ line should accurately reflect the mishap involved. SUBJ line is used for identification and message sorting and is not part of the AVIATRS database.)
A. SAFETY AND ENVIRONMENTAL HEALTH MANUAL, COMDTINST M5100.47
(Include other references as necessary.)
1. AIR STATION OR UNIT/_(CGAS EASTCOAST)**_// MISHAP REPORT NUMBER/_**(3-96)**_//**
2. AIRCRAFT TYPE/___(See list number 1)**___// COAST GUARD IDENTIFICATION NUMBER CGNR/__**(aircraft tail number)**__//**
3. MISHAP DESCRIPTION/__(One or two sentences briefly summarizing the mishap, one line descriptor of mishap)**__//**
4. OPMODE/__(See list number 1)**__// CLASS/___**(See definitions and list number 2)**_____//**
5. DATE/_____// LOCAL TIME/_____// PERIOD OF DAY/__(Light conditions based on time of day and time of year) (See list number 3)**___//**
6. LOCATION OF MISHAP/_____// LAT/LONG/ ___-_____N/___-_____W // (Brief description of where mishap occurred and as appropriate 00-00N/000-00W).
7. WEATHER AT TIME/PLACE OF MISHAP/__(sky/cloud conditions, visibility, wind, sea state, temperature, etc.)**__// METEOROLOGICAL CONDITIONS/__**(See list number 4)**__// OBSTRUCTIONS TO VISIBILITY/__**(if appropriate or a factor) (See list number 5)**__//**
8. FLIGHT INFORMATION.
A. MISSION/_(See list number 6)**___// FLT TIME/____**(0.0 hrs)**____// FLT PLAN/CLEARANCE/ __**(See list number 7)**_// DESTINATION/_**(Final destination of flight)**_//**
B. PHASE OR EVOLUTION AT TIME OF MISHAP/_(See list number 8)**_// AIRSPEED/_**(in kts)**_// ALTITUDE/__**(Altitude at time of mishap.) (See list number 9)**__//**
9. AIRCREW INFORMATION.
A. PILOT AT CONTROLS/___(See list number 10)**__// SEAT POSITION/____**(See list number 11)**___// DESIGNATION/__**(See list number 12)**___// TOTAL FLIGHT TIME/___// FLIGHT TIME IN TYPE/__// FLIGHT TIME LAST 30 DAYS/___// MONTHS AT UNIT/___//**
B. PILOT NOT AT CONTROLS/ ___(See list number 10)**__// SEAT POSITION/____**(See list number 11)**___// DESIGNATION/__**(See list number 12)**___//**

TOTAL FLIGHT TIME/____// FLIGHT TIME IN TYPE/____// FLIGHT TIME LAST 30 DAYS/_____// MONTHS AT UNIT/_____//

C. AIRCREW POSITION/DESIGNATION/__(See list number 13)**_// RATING/_**(See list number 14)**_// TOTAL FLIGHT TIME/___// FLIGHT TIME IN TYPE/___// FLIGHT TIME LAST 30 DAYS/___// MONTHS AT UNIT/_____//**

D. AIRCREW POSITION/DESIGNATION/__(See list number 13)**_// RATING/_**(See list number 14)**_// TOTAL FLIGHT TIME/___// FLIGHT TIME IN TYPE/___// FLIGHT TIME LAST 30 DAYS/___// MONTHS AT UNIT/_____//**

(Pilot at the controls is the pilot at the controls at the time of the mishap or during the incident being reported. If flight was single pilot, enter N/A for PILOT NOT AT CONTROLS. For GROUND mishaps, do not list pilot data unless the pilots were in the aircraft at the time of the mishap.)

(Add as many subparagraphs as needed. List aircrew information ONLY if there was an aircrew function involved in the mishap. For GROUND mishaps, list experience information for the aircrew involved in the incident.)

NO NAMES, RANKS OR SSN.

10. NARRATIVE/___(Brevity is desired, but provide a clear and complete picture of what happened. Include description of mishap causes, injuries and damages. Describe the sequence of events and circumstances leading to the mishap, what happened immediately after the mishap and any other details or information pertinent to the mishap and not described elsewhere in the message.)**_____//**

11. MISHAP DAMAGE AND COST.

A. COAST GUARD AIRCRAFT DAMAGE OR COMPONENTS INVOLVED IN MISHAP PARTS/____// COST/ ____// LABOR COST/ _____// TOTAL COST/ _____//

(List individual parts, components or aircraft damage after PARTS. List total parts cost after COST and labor cost (figured on $18 per hour) after LABOR. TOTAL cost is the total of PARTS and LABOR. If a more detailed description is necessary or desired, use the NARRATIVE or ADDITIONAL FINDINGS. Round cost to the nearest dollar. Specify new vs. overhaul cost as appropriate.)

B. OTHER COAST GUARD PROPERTY DAMAGE/__(Describe non aviation Coast Guard property damage)**___// COST/ _____//**

C. NON COAST GUARD PROPERTY DAMAGE/___(Includes other gov't as well as non gov't damage)**_____// COST/ _____//**

D. NUMBER OF INJURIES/___// FATALITIES/___// DAYS LOST/__//(days off work// restricted activity, SIQ, hospitalized, etc.)**___.** (List number of people injured or killed. Enter 0 if no injuries or fatalities.)

E. TOTAL COST/ $__(Sum of 10A, 10B and 10C)**__//**

(**NOTE:** List number of personnel injured. Details of injuries should be described in the narrative. Include rank, crew position, if applicable, and injuries of unit personnel, passengers or others involved. INJURY NUMBERS MUST AGREE WITH NARRATIVE).

****NO NAMES OR SSN****

(**NOTE**: Aviation mishaps involving personnel injuries must also be reported to the MISREP data base. The CG AVIATRS database does not capture injury data (SSN, name, age, days off, severity, etc.)) This is a function of the MISREP data base system.

12. A. ADDITIONAL INFORMATION/____(Text as appropriate. Include relevant information not included elsewhere in the message. Describe any item involved in the mishap that is not found elsewhere or in the narrative. Describe problems or complications caused by equipment (ALSE, Avionics, Rescue, NVG, etc) not operating as advertised. This includes positive as well as negative items.)**____//**

B. ENGINE MISHAP DATA/_____(For tracking purposes, list the phrase that best describes what happened to the engine as a result of the mishap). (See list number

15)_____//
13. RECOMMENDATIONS AND CORRECTIVE ACTIONS/___(List recommendations or corrective action taken to prevent future mishaps_____//
14. NAME, RANK, PHONE NUMBER OF PERSON TO CONTACT REGARDING MISHAP/_____//
15. COMMANDING OFFICER'S ENDORSEMENT/COMMENTS/_____//.
(The CO shall review the mishap report to evaluate the circumstances surrounding the mishap and indicate actions or recommends needed to correct the deficiencies and prevent similar mishaps. The CO should comment on cause factors and other aspects of the mishap. Comments should address human factor issues involved in the mishap.)
BT
NNNN

PICK LISTS FOR AVIATION MISHAP MESSAGES

List #1

AIRCRAFT	**OPMODE**
AUX	GROUND
HC130	FLIGHT
HH60	FLT-REL
HH65	
HU25	
VC4A	
VC20	

LIST #2 **MISHAP CLASS COST** (refer to COMDTINST M5100.47 (series) for more information)

CLASS A	Over $1,000,000 in Coast Guard aircraft damage, aircraft missing, abandoned or not economically repairable. Mishap results in fatalities or permanent total disability.
CLASS B	$200,000-1,000,000 in Coast Guard aircraft damage, permanent partial disability or more than five people hospitalized.
CLASS C	$20,000-200,000 in Coast Guard aircraft damage, nonfatal injury or occupational illness resulting in lost time from work beyond the day of the mishap.
CLASS D	Less than $20,000 damage, nonfatal injury or illness not meeting criteria for Class C mishaps. (includes Near Midair collision, Lessons Learned and other mishaps with significant mishap prevention information.)
CLASS E	Aviation incidents involving engine damage only, regardless of the damage cost. If the damage is not contained or not limited to the engine, the mishap will be reported according to the appropriate mishap Class. Class E mishaps can be Flight, Flight-Related or Ground Class E incidents also include Foreign Object Debris (FOD) Damage Incidents.

List #3 **PERIOD OF DAY**

DAY	DUSK	
DAWN	NIGHT	N/A

LIST #4 **METEOROLOGICAL CONDITIONS**

IMC	VMC	N/A

LIST #5 **OBSTRUCTIONS TO VISIBILITY**

BLOWING SAND	FOG/RAIN	RAIN/SNOW
BLOWING SNOW	HAZE	SEA SPRAY
BROWNOUT	MIST	SMOG
CLEAR	NO MOON	SMOKE
CLOUDS	NONE	SNOW
DUST	N/A	SUN
FOG	RAIN	VOLCANIC ASH
FOG/HAZE	RAIN/HAZE	WHITEOUT

LIST #6 **MISSION**

AI	COOP	ICE	MDP	OLP	SAR
ALPAT	DEMO	LE	MEP	OPS	TEST/FCF
AMIO	ELT	LOG	MER	PAO	TRNG
ATON	FERRY	M-OPS	MSO	PAX	
CARGO	FISH	MAINT	NVG	PHOTO	

LIST #7 **FLIGHT PLAN**

IFR	VFR
N/A	SVFR

LIST #8 PHASE

APPROACH	HOT REFUELING	PREFLT
AUTOROTATION	HOVERING	ROTOR ENGAGEMENT
CARGO	INFLIGHT	RS DEPLOYMENT
CLIMBING	INTERCEPTING	RUNUP
DEBARKING/EMBARKING	ITO	SEARCH/PATROL
DESCENDING	JACKING	SHUTDOWN
DROPS	LANDING	SIMULATED EMERGE
DUMPING FUEL	LEVEL FLIGHT	STARTUP
FINAL	LOADING/UNLOADING	STATIC DISPLAY
FORCED LANDING	LOW LEVEL	TAKEOFF
FORMATION FLIGHT	MAINTENANCE	TAXIING
FUELING	ORBITING	TEST/FCF
GO AROUND	OVERFLT/FLYBY	TIED DOWN/PARKED
GROUND HANDLING	OVER/WATER	TOUCH/GO
HFIR	PATTERN	TOWING
HOISTING	POSTFLT	WASH

Several choices may seem redundant, but some may better describe the actually situation at the time of the mishap.

LIST #9 ALTITUDE

AGL	FL	
AWL	MSL	N/A

LIST #10 PILOT IN COMMAND

PIC	NPIC

LIST #11 SEAT POSITION

RIGHT	LEFT

LIST #12 DESIGNATION

AC	FP
CP	IP
SP (student pilot)	

LIST #13 CREW POSITION/DESIGNATION

AV	AI	BA
DM	FE	FM
FS (flight surgeon)	HQBA	HS (corpsman)
LM	N	R
RS	SSO	

Refer to Chapter 8 of the Air Operations Manual (COMDTINST M3710.1) for information on aircrew designations

LIST #14 RATING

AMT	AVT	
AST		

LIST #15 ENGINE

FLAMEOUT	N/A
INFLT FAILURE	OVERHAUL
INFLT SHUTDOWN (w/restart)	REMOVE/REPLACE
INFLT SHUTDOWN (w/o restart)	SEL/3EL
INSPECTION	

Several choices may seem redundant, but some may better describe the actually situation at the time of the mishap.

MESSAGE REPORTING OF MISHAPS

The following worksheet and tables below should be used to help gather the information needed for the message.

Mishap Report Worksheet

Date of Mishap:_____ Local Time of Mishap: _____

Coxswain Data:

Grade: _____ Age: _____ Months Qualified in Vessel: _____ Months at Unit: _____

Narrative of Mishap (What, Where, How, Why, Environmental Conditions if applicable)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Cause(s) and Contributing Factor(s) of Mishap								
Sports		No Fault Vehicle						
if not Sports *or* No Fault Vehicle check as many that apply from below								
Personnel				**Equipment**		**Environment**		
Experience		Policies/Procedures		Eng/Design		Weather		
Qualifications		Planning/Risk Assessment		Failure		Noise		
Judgment		Management/Supervision		Inadequate Maint.		Visibility/Lighting		
Fatigue		Communication				Temperature		

Additional Cause Information:

_____

_____

_____

_____

Corrective Actions Taken/Lessons Learned:

_____

_____

_____

Medical Injuries:

Name: _____ Age: _____ Grade: _____ Rate: _____

Status:										
On Duty Coast Guard (Act Duty)		On Duty CG Reserve		On Duty DOD		Contractor		NAFA	
Off Duty Coast Guard (Act Duty)		On Duty Civilian		Off Duty DOD		Visitor		Auxiliary	

Part of Body Injured:												
Arm		Foot		Head		Lung		Neck		Trunk		
Eyes		Hand		Legs		Middle/Inner Ear		Other Internal				

Nature of Injury:					**Severity:**	
Abrasions/Cuts/Punctures		Fractures/Dislocation			Fatal	
Biological Exposure		Irritation			Full Disability	
Bruise/Sprain/Strain/Tear		Occupational Illness			Partial Disability	
Chemical Exposure		Radiation Exposure			None of the above	
Concussion/Loss of Consciousness		Thermal Exposure (Includes Hot & Cold)				
Electrical Exposure						

Type of Personal Protective Equipment used:											
	Req.	**Used**		**Req.**	**Used**		**Req.**	**Used**		**Req.**	**Used**
Ear			Foot			PFD			Other		
Eye			Hand			Respirator			Description of Other:		
Fall Protection			Head			Seat Belt					

Days Hospitalized		Lost Work Days (NFFD/SIQ)		Days Restricted (FFLD)	

Were any days of sea/boat/flight duty missed? Yes		No		(Civilians Only) Worker Comp Filed? Yes		No	

Property Damage:

Coast Guard Property Damage	
Government Property General	
Government Property Specific	
Operational Days Lost	
Cost of CG Owned Parts/Materials	
No. of CG man hours to repair damage	

Non-Coast Guard Property Damage Due to CG Operations	
Description	
Cost of Repairs	

Coast Guard Auxiliary Facilities / Equipment	
Description:	
Cost of Repairs:	

First Level Review

Comments:

_____

_____

_____

Name: _____ Phone: _____

Command Review (By Direction Authority)

Comments:

_____

_____

_____

Name: _____ Phone: _____

Table 1: Mission

ATON	Shore and Radio Navigation Aids
C&S	Command and/or Support
DO	Defense Operations
ELT	Enforcement of Laws and Treaties
IO	Ice Operations
M+R	Maintenance and Repair
MER	Marine Environmental Response
MI	Marine Inspection
OTHER	Other Not Listed
PERS	Off Duty/Off-The-Job
PSS	Port Safety and Security
SAR	Search and Rescue
TRG	Training

Table 2: Boat Types

ANB	ATON Boat (ANB - 55', 63' & 64')
ANB(X)	ATON Boat Misc. (34' and 38')
ASB	Arctic Survey Boat (38')
ATB	Aviation Training Boat (41' UTB)
BU	Buoy Boat (45')
BUSL	Buoy Boat, Stern Loader (49')
CB-S	Cutter Based: 14-15'
CB-M	Cutter Based: 17-18'
CB-L	Cutter Based: 19'-22'
CB-OTH	Cutter Based: Over the Horizon (24' Zodiac)
CT (All Types)	Cadet Training Boat
DPB	Deployable Pursuit Boat (38' or 42')
IMARV	Independent Maritime response Boat (50' 0r 55')
LCVP	Landing Craft
MCB	Motor Cargo Boat (25')
MSB	Motor Surf Boat (26')
MLB-44	Motor Life Boat (44')
MLB-47	Motor Life Boat (47')
PWB	MSO Port & Waterways Boat (21'' – 38', all brands)
RB-HS	Response Boat, Homeland Security
RB-S	Response Boat, Small
SKF	Skiff: Immediate vicinity maintenance & response
SPC	Special Purpose Craft (General)
SPC (Airboat)	Special Purpose Craft (Airboat)
SPC (Cable)	Special Purpose Craft (Cable Boat)
SPC (Ferry)	Special Purpose Craft (Ferry)
SPC (LE)	Special Purpose Craft (Law Enforcement)
SPC (HWX)	Special Purpose Craft: Heavy Weather (52' MLB)
SPC (SURF)	Special Purpose Craft: Surf (30' SRB)
TANB	Trailerable ATON Boat (21')
TPSB	Transportable Port Security Boat (PSU)
UTL	Utility Boat, Light (17' – 28'11")
UTB	Utility Boat, Big (41')
UTM	Utility Boat, Medium (25'-40'11" and is STA(sm) Primary Response vsl)

Use the following format for the message:

FM (UNIT NAME)
TO COMMANDANT (G-WKS)
COMCOGARD MLC LANT NORFOLK VA//KSE//
COMCOGARD MLC PAC ALAMEDA CA//KSE//

AIG FOUR NINE THREE FOUR (FOR SMALL BOAT OPERATIONAL MISHAPS)
AIG FOUR NINE TWO THREE (FOR CUTTER/CUTTER SMALL BOAT OPERATIONAL MISHAPS)
AIG EIGHT NINE SEVEN FOUR (FOR SHORE UNIT OPERATIONAL MISHAPS)
(AIG's to be used only for operational mishaps)

INFO OPERATIONAL CHAIN

BT
UNCLAS FOUO//N05100//
SUBJ: CLASS (A, B, C, D or D - HIPO) MISHAP (Unit or Boat Type) – NRN
//
WHAT FOLLOWS MAY CONTAIN PRIVILEGED SAFETY INFORMATION.
USE FOR MISHAP PREVENTION PURPOSES ONLY.
//
1. GENERAL INFO//
OPFAC/(Five Digit Operating Facility Code)//
DATE/(Date in MMDDYY Format)//
TIME/(Time in HHMM Format)//
UNIT MISSION/(See Table 1 above)//
RELATED TO MISSION/(Yes or No—Is this an operational mishap?)//
TYPE OF BOAT/(See Table 2 above if applicable, NA if not)//
COXSWAIN DATA/GRADE:(E-4 for example)/**AGE**:(19 for example)/**MOS QUAL IN VSL**:(Number of months qualified on platform)/**MOS AT UNIT**:(Number of months at unit)// (NA if not applicable)
NARR/(Describe the event—use the worksheet above for guidance)//
CAUSE/(Primary cause of the mishap as per the worksheet above)//
ADD CAUSE/(Additional causes of the incident as per the above worksheet)// (Each type separated by a "/", NA if none)
ACTION/(Action taken to prevent this mishap from occurring again)//

2. **PERSONAL INJURY DATA/NUMBER OF REPORTS**:(Number of injured personnel)//
GRADE/(E-4, for example)//
RATE/(MK, for example)//
STATUS/(Status as per above worksheet. ON DUTY CG for example)//
PRI/(Primary body part injured)/(Nature of primary injury)//
SEC/(Secondary body part injured)/(Nature of secondary injury)//
SEVERITY/(LOST WORK, for example)//
PPE USED/(Type(s) of PPE used)// (Each type separated by a "/")
PPE REQ/(Type(s) of PPE required by the operation)// (Each type separated by a "/")
DAYS HOSP/(Number of days hospitalized)//

DAYS LOST/(Number of days of lost work time beyond the day of injury)//
DAYS REST//(Number of days in a restricted or fit for light duty status)//
(Repeat the above fields for each injury)

3. **PROPERTY DAMAGE**//
CG PROP DESC/(Description of Coast Guard property damaged)//
LOST OP DAYS/(Number of operational days lost for the CG property due to the mishap)//
CG PROP COST/CG MAT:$(Cost of Coast Guard property or cost to repair in $, 0.00 if none)/**LABOR:$(**Cost of labor need to make repairs in $, 0.00 if none)/**CONTRACT:$(**Cost of contractors needed for repairs in $, 0.00 if none)//
NON-CG PROP COST/(Cost to repair non-Coast Guard property in $, 0.00 if none)//
AUX COST/(Cost to repair Auxiliary property in $, 0.00 if none)//

4**. INVESTIGATOR/NAME**/Name of mishap investigator)/(Phone number of mishap investigator)/(E-mail address of mishap investigator)//

BT
NNNN

SOUND LEVEL REPORT INSTRUCTIONS

1. Sound Level Survey Report Form (CG-5139) (RCN-5100-3). CG-5139 is designed for use with a Type I or II (ANSI) calibrated sound pressure level (SPL) meter. See Figure 7-1 for a sample CG-5139. Reproduce CG-5139 locally.

2. Specific Instructions.

   a. Enter the data required for the calibrator and SPL meter.

   b. Indicate whether this is an initial survey, resurvey or other type.

      (1) Initial survey is the first survey taken of an area or operation suspected to produce hazardous noise.

      (2) Resurvey is a follow-up of the initial survey conducted at least annually.

      (3) Other is a survey associated with engineering treatment or done on special request.

   c. Indicate whether measurements are made indoors or outdoors.

   d. Identify each noise source or noise hazardous area. If the entire room or area is noisy, list it (i.e., forward engine room). When noise sources present a hazard only in the immediate vicinity, list the source separately.

   e. Indicate whether the meter is in the fast or slow position. Most measurements will be made in the slow position because it is easier to read.

   f. Measure and record the A-weighted and C-weighted sound pressure levels at the normal operator position, ear height. Hold the instrument at arms length and at a 90 degree angle to the source. Where noise varies throughout an area, write the average and high-to-low range.

   g. Indicate whether noise is continuous (S) or intermittent (I); e.g., engines at a constant speed produce continuous noise; hammering, shearing or weapons firing produce intermittent noise.

2. h. For each hazardous noise source or area, record the full name of all personnel exposed. Submit the list to the local medical department for monitoring.

i. Indicate for each person listed whether they are civilian (C) or military (M).

j. For each person listed, indicate the type of hearing protection worn, if any, and date (month/year) of last known audiogram.

k. If a more detailed survey is needed, indicate the type recommended and submit a copy of the noise survey with a written request to the appropriate Commander (k), Coast Guard Maintenance and Logistics Command.

l. Indicate the name of the foreman, section chief or other supervisory person in charge of the area.

m. Include in the space provided any additional information pertinent to the work area, workers exposed or the noise sources.

n. State the name, location and operating facility (OPFAC) number of the unit survey; surveyor's full name and title and the district or Headquarters unit where the facility is located.

o. READ THESE DIRECTIONS AND COMPLETE THE REVERSE SIDE OF THE FORM.

Include a diagram of the operation or work area.

Indicate the primary noise source by a circled "A" and secondary noise sources by a circled "B," etc.

Workers shall be identified by circled numbers indicating relative position(s) to the noise source which should coordinate with names of exposed workers on the reverse side of the form.

One number may appear on the diagram several times if the employee moves to two or more positions having different sound levels.

Identify type of machinery, model number, manufacturer, dimensions, kind of deck, overhead and bulkhead, etc.

RCN-5100-3

DEPARTMENT OF TRANSPORTATION U.S. COAST GUARD CG-5139 (Rev. 3-90)	SOUND LEVEL SURVEY REPORT	REPORT NUMBER (RNO)

SOUND LEVEL METER		CALIBRATED		INITIAL SURVEY		RE-SURVEY		OTHER
MFG.		MFG.						
MODEL	TYPE	MODEL		INDOOR		OUTDOOR		
SN		SN		Wind Screens Will Be Used On All Measurements Indoors and Outdoors				
DATE CALIBRATED		DATE CALIBRATED						
ILLUSTRATE REVERSE SIDE WITH DESCRIPTION OF AREA WHERE NOISE SURVEY IS CONDUCTED								

IDENTIFY SPECIFIC WORK LOCATION AND NOISE SOURCE	DBA READING	DBC READING	TWA	FULL NAME, RATE OR JOB TITLE, AND SSN OF EXPOSED PERSONNEL	PLUGS ☐ MUFFS ☐ NONE ☐
(1)				(1)	☐ ☐ ☐
(2)				(2)	☐ ☐ ☐
(3)				(3)	☐ ☐ ☐
(4)				(4)	☐ ☐ ☐
(5)				(5)	☐ ☐ ☐
(6)				(6)	☐ ☐ ☐
(7)				(7)	☐ ☐ ☐
(8)				(8)	☐ ☐ ☐
(9)				(9)	☐ ☐ ☐
(10)				(10)	☐ ☐ ☐

COMMENTS:

UNIT NAME: LOCATION: OPFAC NO.:	TIME	DATE	NAME AND TITLE OF PERSON TAKING SURVEY

PREVIOUS EDITIONS ARE OBSOLETE

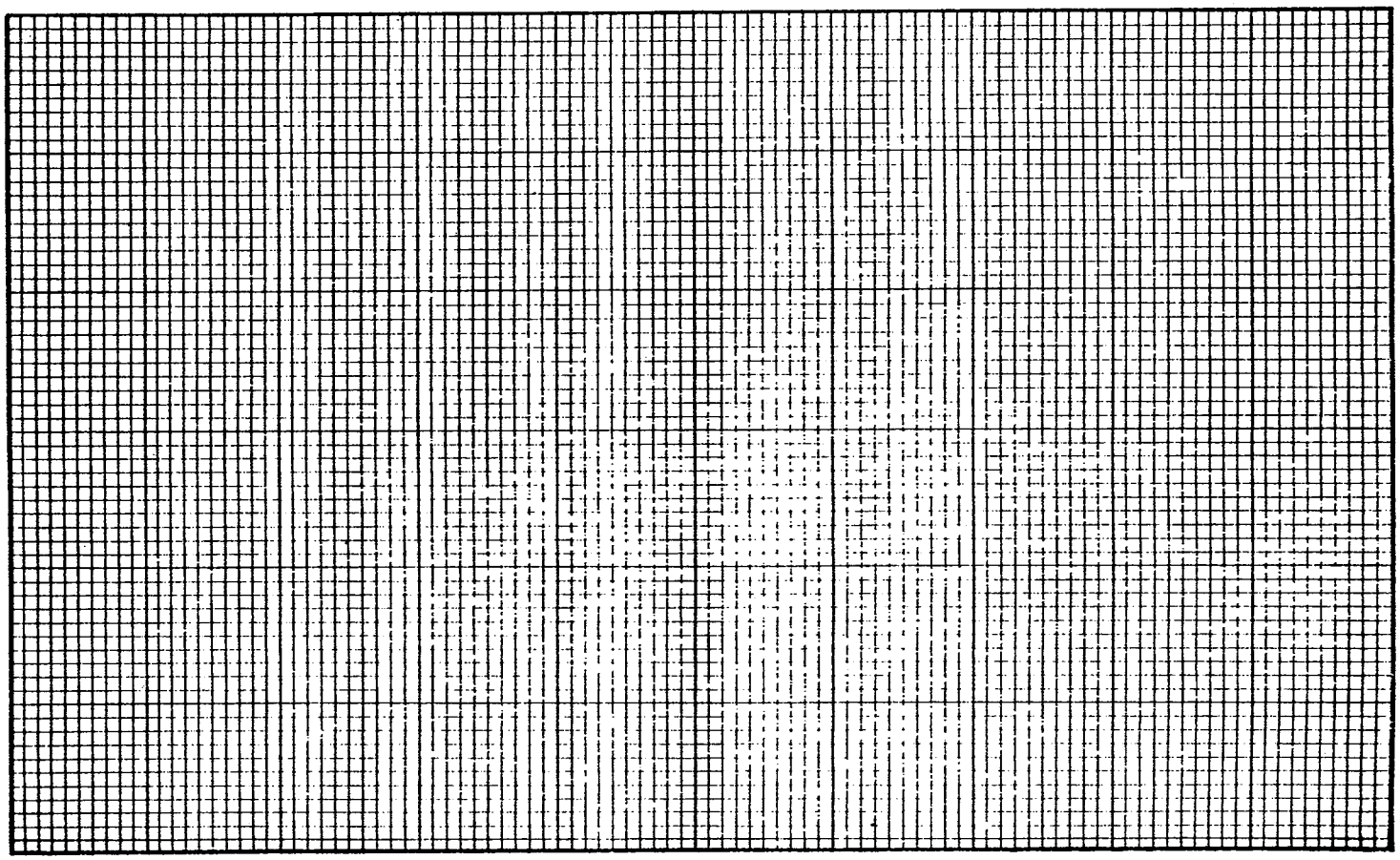
COPY TO G-KSE-3. COPY FOR FILES. LIST OF NAMES TO MEDICAL DEPARTMENT

Figure 7-1

CG-5139 (Rev. 3-90)

DIAGRAM OF AREA AND OPERATIONS

Instructions: Include a diagram of the operation or work area; indicate the primary noise source by a circled "A", and secondary noise sources by circled "B" etc.; workers shall be identified by circled numbers indicating relative position(s) to the noise source which should coordinate with names of exposed workers on the reverse side of the form. One number may appear on the diagram several times if the employee moves to two or more positions having differing sound levels. Identify: type of machinery, model number, manufacturer, dimensions, kind of deck, overhead and bulkhead surfaces.



Has area previously been designated and labeled noise hazardous? ☐ **YES** ☐ **NO**
Retain one file copy for 20 years, mail one copy to G-CSP-4.

Noise exposed personnel list must be transmitted to medical department for monitoring.

Figure 7-1
4

WORKPLACE MONITORING REPORT INSTRUCTIONS

1. **Coast Guard Industrial Hygiene Data Files.** The United States Coast Guard Industrial Hygiene Workplace Monitoring Report (CG-5386) (RCN-5100-2) is one of two forms used for recording, reporting and entering data into the Coast Guard Industrial Hygiene Data Files. See Figure 8-1 for a sample CG-5386.

2. **Description.** A double sided two page form, page one of CG-5386 contains space for worksite, hazardous materials in use, sampling and analysis data. This side of the form is designed to be photostated and mailed directly to laboratories for entry of analytical data. There is room for entry of up to two samples each with up to four analyses. Page 2 of the form contains space for Privacy Act restricted employee exposure data and hazardous materials proprietary data both of which require special handling. The left hand margin of both pages of the form contains computer file attribute abbreviations which serve as prompts for computer data input.

3. **Data Entry Procedures.** Listed below are data entry procedures for those elements of CG-5386 having computer input. Elements having no entry data should be left blank. Required data elements are so indicated. DO NOT ABBREVIATE.

ATTRIBUTE ABBREVIATION	DATA ELEMENT	YOU ENTER
RNO	Report Number	Report numbers are assigned to surveys, studies or projects for data tracking purposes. Report numbers will be assigned by Commandant (G-KSE).
	File(s)	Check appropriate file for data entry.
	(REQUIRED DATA ELEMENT)	IHSD - Sampling data other than sound level survey data.

3. (cont'd)

ATTRIBUTE ABBREVIATION	DATA ELEMENT	YOU ENTER
		Hazardous Materials Information System (HMIS) - Hazardous materials information not presently contained in the HMIS file. HMIN - Hazardous materials inventory data.

BLOCK 1 - WORKSITE DESCRIPTION

FAC	Facility Sampled	Name of facility actually sampled. See enclosure (3) of the Standard Distribution List (SDL) (COMDTNOTE 5605) and Chapter 1 of COMDTINST M5440.2 (series) for a listing of authorized unit abbreviations if sampled unit is Coast Guard. Do not use CG in front of abbreviations.
	For Spill Response	Latitude, longitude, river and rivermile as appropriate.
	For COMDT (G-M) Activities	Ship name, barge name (or owner).

NOTE: Computer field has 50 character limit.

WLOC	Work Location	Specific location of work operation being monitored such as Building, Shop, Space, etc.
OPS	Work Operation	Briefly describe work operation.
	For Spill Response	Enter Pollution Response and level of response, i.e., A, B, C or D; or Pollution Investigation.

3. (cont'd)

ATTRIBUTE ABBREVIATION	DATA ELEMENT	YOU ENTER
	For COMDT (G-M) Activities	Enter one of the following types of operations: Letter of Compliance; Midperiod Inspection; Certificate of Inspection; Topside Inspection; Foreign Vessel Inspection; Transfer Monitoring.

NOTE: Computer field has 100 character limit.

WOC	Workplace Conditions - For COMDT (G-M) Activities	Last two cargoes. Was tank certified? For what? When Day/Month/Year)?

NOTE: Computer field has 50 character limit.

PRO	Protective Equipment	Types and level of protective equipment available and in use. Use coding system contained in the Practices for Respiratory Protection (COMDTINST M6260.2 series) for respiratory protective equipment.

NOTE: Computer field has 80 character limit.

ENG	Engineering Controls	Briefly describe types of available engineering controls.

NOTE: Computer field has 40 character limit.

3. (cont'd)

BLOCK 2 - HAZARDOUS MATERIALS IN USE

ATTRIBUTE ABBREVIATION	DATA ELEMENT	YOU ENTER
PNO	Product Number	HMIS file product number (PNO) of hazardous materials in use.
	For Spill Response	CHRIS Code (3 letter alpha) of spilled material. Use special designation code for items not in CHRIS.
	For COMDT (G-M) Activities	CHRIS Code of material being handled or shipped. Use special designation code for items not in CHRIS.
NM	Product Name	Commercial name of product in use.
	For Spill Response	CHRIS name of product spilled.
	For COMDT (G-M) Activities	CHRIS name of product being handled or shipped.
CL	Product Class	HMIS product class of hazardous material in use. Do not complete for COMDT (G-M)/spill response activities.

BLOCK 3 - SAMPLING AND ANALYSIS DATA

SNO	Sample Number	Locally assigned sample number.

NOTE: Computer field has 5 character limit.

ST	Sample Type (REQUIRED DATA ELEMENT)	P (for personal) A (for area) B (for bulk)

3. (cont'd)

ATTRIBUTE ABBREVIATION	DATA ELEMENT	YOU ENTER
SLOC	Sample Location	Specific location where sample was taken, e.g., inside spray paint booth or behind boiler #2, etc.
MED	Sample Collection Medium	CT (for charcoal tube) T (for tube other than charcoal and specify type, e.g., silica gel) I (for impinger) DR (for direct reading instrument, including indicator tubes)

NOTE: Computer field has 2 character limit.

DT	Sample Date	Month/Day/Year
TIME	Sample Time	Sample time in minutes.
CAS1 CAS5 CAS2 CAS6 CAS3 CAS7 CAS4 CAS8	Chemical Abstract Service Registry Number REQUIRED DATA ELEMENT	Unique number assigned to chemicals by Chemical Abstract Service. Can be found in ACGIH TLV Booklet or NIOSH Toxic Effects Registry.
A1 A5 A2 A6 A3 A7 A4 A8	Analysis	Requested analyses. Use chemical names as given in current copy of ACGIH TLV Booklet.
R1 R5 R2 R6 R3 R7 R4 R8	Analytical Result	Real Number Result mg/M3, f/cc or % with qualifiers such as <or>.

Three primary concentration terms are contained in the IHSD file -- mg/M3, f/cc and %. All bulk samples will be reported in %; all area or personal samples will be reported in mg/M3 except asbestos samples which will be reported in f/cc. For data entry, the following concentration term rules apply:

3. (cont'd)

CONCENTRATION TERM	SAMPLE TYPE (ST) MUST EQUAL	OTHER CONDITIONS
mg/M3	P or A	
f/cc	P or A	Analysis (A) must contain either word "Asbestos" or word "Count."
%	B	
Positive	B	Result (R) = 100
None Detected	B or P or A	Result (R) = 0
u	P or A	Analysis (A) must contain either word "Diameter" or word "Length."
ppm	NOT ALLOWED	
COM	Comments	Additional comments.

NOTE: Computer field has 50 character limit.

PAGE 2 OF REPORT

ATTRIBUTE ABBREVIATION	DATA ELEMENT	YOU ENTER
RNO	Report Number	Report Number assigned to survey, study or project. This RNO will be consistent with the RNO assigned to page 1 of the report.

BLOCK 4 - EMPLOYEE DATA

ATTRIBUTE ABBREVIATION	DATA ELEMENT	YOU ENTER
EMP	Employee Name	Name of employees actually sampled or performing same job as sampled employee. Each computer record has the ability to store information on up to 6 employees.

3. (cont'd)

SSN	SSN	Employee's social security number.
RATE	Job Title	Employee's job title (civilian) or job rate (military).
ENSO	Employee Sample Number	Locally assigned sample number (SNO) for personnel actually sampled; for others performing same job, leave blank. Must be same as SNO from block 3.
FREQ	Est. Exp. Time	Estimate of employee exposure time in hours per week.

BLOCK 5 - HAZARDOUS MATERIALS INVENTORY

NOTE: Each record has ability to store information on up to 5 products.

PNO	Product No.	HMIS file product number of hazardous material, if known.
NM	Product Name	Manufacturers, Distributors or National Stock Number assigned product name.
CL	Product Class	HMIS file product class of hazardous material.

ATTRIBUTE ABBREVIATION	DATA ELEMENT	YOU ENTER
NSN	Nat. Stock No.	National Stock Number of hazardous material.
MFG	Manufacturer	Manufacturer or distributor of hazardous material.

3. (cont'd)

ATTRIBUTE ABBREVIATION	DATA ELEMENT	YOU ENTER
MATLO	Material Location	Specific location of hazardous material at Coast Guard unit, e.g., carpenter shop, paint shop, etc.

BLOCK 6 - HAZARDOUS MATERIALS INFORMATION

PNO	Product Number	HMIS file product number (PNO) of hazardous material if assigned.
SOURCE	Data Source	Check appropriate source of hazardous materials data.
NM	Product Name	Manufacturers or National Stock Number name assigned to product.
CL	Product Class	HMIS file product class of hazardous material.
NSN	Nat. Stock No.	National Stock Number of hazardous material. Each computer record has ability to store up to 4 NSN's.
FED	Fed. Spec.	Federal Specification of hazardous material.
ING	Major Chemical Ingredients	Major chemical ingredients. Use chemical names as given in current copy of ACGIH TLV Booklet. Each computer record has ability to store up to 6 major chemical ingredients.

3. (cont'd)

ATTRIBUTE ABBREVIATION	DATA ELEMENT	YOU ENTER
AMT	(%)	Real number % chemical composition of up to 6 chemical ingredients. Chemical ingredients should be listed as follows: 32% Acetone, 21% Methyl Ethyl Ketone, etc.
HAZ	Hazard	Explain hazards of material in lay person terms, e.g., will irritate the nose and throat rather than mucous membrane irritant, etc.

NOTE: Computer field has 800 character limit.

PRO	Protective Measures	Explain measures to be taken to protect worker from hazards of material. Use coding system in COMDTINST M6260.2 (series) for respiratory protective equipment.

NOTE: Computer field has 800 character limit.

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RNO Report # _____

UNITED STATES COAST GUARD
INDUSTRIAL HYGIENE WORKPLACE MONITORING REPORT

RCN-5100-2

File(s) (check one or more):
☐ IHSD (Fill out blocks 1, 2, 3, 4) ☐ HMIN (Fill out block 5) ☐ HMIS (Fill out block 6)

FAC 1. Worksite Description | Facility Sampled:

WLOC Worksite (Bldg., Shop, etc.) _____

OPS Description of Work Operation _____

_____

WOC Workplace Conditions _____

PRO Protective Equipment: _____

ENG Eng. Controls: _____

_____

2. Hazardous Materials In Use

PNO Product # _____ Product Class _____

NM Product Name _____

CL

3. Sampling and Analysis Data

a. Sampling Data

		DB Temp (° F)	R. H. (%)	Wind
SNO	Sample #			
ST	Sample Type (P, A or B)			
SLOC	Sample Location			
MED	Collection Medium (T;F;I)			
DT	Sample Data (mo-da-yr)			
	Sample Instrument			
	Calibration Date			
	Sample Rate (ℓ/min)			
TIME	Sample Time (min)			
	Sample Volume (ℓ)			

Atmospheric Conditions

	Analysis Requested	CAS #	NAME	CAS #	NAME
CAS, A		1	1	5	5
CAS, A		2	2	6	6
CAS, A		3	3	7	7
CAS, A		4	4	8	8

Sampled by _____ Title _____

b. Analysis Data:

	Analytical Method (CAM) SCP = if NIOSH Method):		
R1, R5	Analytical Results (mg/M3)	1.	5.
R2, R6	(f/cc) (%)	2.	6.
R3, R7		3.	7.
R4, R8		4.	8.

Date Sample Received	Date Results Reported	Lab Report #

Analyzed By _____ Laboratory _____

COM Comments: _____

Dept. of Transp., USCG CG-5386 (Rev. 3-90) SN 7530-01-GF3-1640

Figure 8-1

Reverse of CG-5386 (Rev. 3-90)

UNITED STATES COAST GUARD
INDUSTRIAL HYGIENE WORKPLACE MONITORING REPORT

RNO Report # _____

4. Employee Exposure Sampling Data

EMP SSN RATE ESNO FREQ — Name: Last, First, MI	SSN*		Job Title, Rate	Sample #	Est. Exp. Time (hr/wk)
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			

*Note: Insert an "x" after the SSN to indicate a personal sample.

5. Hazardous Materials Inventory

PNO NM CL FSN MFG MATLO — Product No.	Product Name	Product Class	Nat. Stock No.	Manufacturer	Material Location

6. Hazardous Materials Information

Data Source (check one)
- ☐ CG-HMIS
- ☐ DOD-HMIS
- ☐ MFG.-MSDS (OSHA FORM 20)
- ☐ OTHER (Explain) _____

PNO SORCE — Product No.
NM — Product Name
CL — Product Class
NSN — Nat. Stock No.
FED — FED Spec
ING AMT — Major Chem. Ingredients (%)
HAZ — Hazard
PRO — Protective Measures

Figure 8-1

E-MISHAP SYSTEM WEB LINK and GUIDE TO ONLINE MISHAP REPORTING

1. The E-Mishap System may be accessed at:

http://cgweb.lant.uscg.mil/KDiv/kseMISREP/Default.asp

2. The guide for using the E-Mishap System to report mishaps online can be found at:

http://cgweb.lant.uscg.mil/Kdiv/kseMISREP/help/QuickGuide.doc

LIMITATIONS ON THE USE AND DISCLOSURE OF MISHAP INVESTIGATIONS AND REPORTS.

1. Introduction. A thorough understanding of the concept of privileged safety information is essential for the proper investigation of mishaps in the Coast Guard Safety Program. This enclosure discusses the use and restrictions of safety privilege. Personnel involved in either the mishap or legal investigation and the review processes **must** understand and honor the privileged nature of safety information.

2. Mishap Investigations vs. Legal Investigations. There are several reasons for investigating mishaps. Mishap investigations and administrative investigations share a common goal of fact finding. However they serve different purposes within the Coast Guard and must be treated differently. Safety investigations are conducted solely for mishap prevention. Legal investigations are conducted for all other purposes including claims, disciplinary, and administrative actions.

    a. Mishap investigations are conducted with the goal of prevention, not punishment. Persons involved in mishaps, either directly or indirectly, cannot be disciplined or punished based on the findings of the mishap investigation. A mishap investigation traces the events from a time when things were going normally through the mishap evolution. This sequence of events is then analyzed for all the contributory or causal factors that played a role in the mishap. This process seeks to find out why a mishap occurred so similar mishaps may be prevented.

    b. Legal investigations of mishaps are conducted to determine possible neglect or malfeasance by government personnel. This type of investigation may take the form of a court of inquiry or other fact-finding body, as specified by the Administrative Investigations Manual, COMDTINST M5830.1 (series). If the legal investigation seeks to place blame for the mishap, witnesses are accorded the right not to testify if such testimony would be self-incriminating.

3. The Safety Privilege Concept. The Commandant has determined that certain Mishap Analysis Reports contain privileged information and shall only be used for safety purposes and only reviewed by personnel who have a direct responsibility for mishap prevention. The concept of privilege is intended to prevent the unnecessary disclosure of privileged safety information outside the safety program. To promote conjecture, speculation and frank discussions by safety investigators, safety investigation boards, endorsers and reviewers of safety investigations, the USCG will not disclose privileged safety information, which is defined in this enclosure.

    a. Definition of Privileged Information. There are two types of privilege safety information found in mishap reports.

        (1) The first includes the findings, evaluations, analyses, opinions, conclusions, recommendations and other products of the deliberative processes of a safety investigator, safety investigation boards, endorsers and reviewers.

        (2) The second includes statements, reports or information given to a safety investigator or board pursuant to a promise of confidentiality,

and any direct references to any such statements or information in a mishap report.

b. In some mishaps, the actual causal factors may never be discovered unless witnesses are assured that their statements and information will be used for mishap prevention only. Individuals may be reluctant to reveal information pertinent to a mishap because they believe certain uses of the information could be embarrassing or detrimental to themselves, their fellow service members, their command/employer, or others. In addition, Mishap Analysis Board (MAB) members and endorsers might be reluctant to include their deliberations, opinions, and recommendations if they believe the information could be used for other than safety purposes.

4. Grants of Confidentiality. To advance the purpose of mishap prevention, investigation procedures should encourage widest disclosure of all relevant information. Safety investigators may give a promise of confidentiality to encourage frank and open communications to any individual who provides information to the MAB, if it is believed that without an offer of confidentiality, the individual will not provide a candid statement.

a. These promises must be explicit, in writing or spoken at the beginning of a recorded statement, and cannot be implied from the investigator's status or function.

b. The witness will be told that the promise only applies to information provided by the witness for the safety investigation (even if the witness provides the same information to another investigation board). In each instance, the promise of confidentiality will be strictly limited to only the information provided directly by the witness for the safety investigation, after the promise was extended.

c. Individuals interviewed by the MAB will not testify under oath. If a witness is granted a promise of confidentiality by the MAB, they should be advised their statement (oral or written) will not be used in any administrative, punitive or legal action without their consent.

d. The safety investigator must document all instances in which a witness gives a statement pursuant to a promise of confidentiality. These promises should only be given as needed to ensure forthright cooperation of the witness concerned. See Figure 2-1 in Enclosure (2).

e. Promises of confidentiality will be granted individually (on a witness by witness basis) and may not be given automatically or on a blanket basis to all witnesses interviewed.

f. A “Witness Statement Promise of Confidentiality Advisory Form” (See enclosure (2)) shall be attached to each witness statement.

g. A list of all witness interviewed shall be include in the Mishap Analysis Report annotating whether the individual was offered and accepted the promise of confidentiality.

h. If evidence of a crime is discovered, the safety investigation must stop and no further offers of confidentiality may be made. Commandant (G-WKS) in consultation with the Office of Chief Council will decide whether the safety investigation should be secondary to the criminal investigation.

i. Safety investigators may grant promises of confidentiality in investigations of all aviation mishaps. For mishaps involving military unique items (such as ships, shipboard systems, weapon systems, etc) military unique operations or exercises, Commandant (G-WKS) will determine for each mishap whether investigators may grant confidentiality. For all other mishaps, promises of confidentiality are not authorized.

5. Restrictions/UCMJ Violations. All members of the Coast Guard are prohibited from violating the privileged character of the mishap report in any way, whether by unauthorized access, duplication or retention of copies or original documents or through unauthorized disclosure of any part of the safety investigation report. Distribution of privileged safety information to any person or any command not specified in this instruction or specifically authorized by the Commandant (G-WK) is prohibited. Such violations are punishable under article 92, Uniform Code of Military Justice and may be grounds for disciplinary action under civilian personnel regulations. In accordance with the "privilege statement" concept, the following restrictions shall be observed:

a. Completed Report. Privileged safety information from a mishap analysis report shall not be appended to any other document, unless the sole purpose of such a document is the prevention of mishaps.

b. This prohibition includes reproducing any part of a mishap analysis report or disclosing the contents thereof by means of giving testimony relative to the mishap report.

c. Adverse Action. Privileged safety information will not be used to support disciplinary or adverse administrative action, to determine the misconduct or line-of-duty status of any personnel, or as evidence before any evaluation board. Nor shall they be used as evidence before administrative bodies, such as aviator disposition boards or promotion boards.

d. Litigation of Claims Involving U.S. Government. Privileged safety information will not be used to determine liability in administrative claims for or against the Government or in any litigation on behalf of the Government.

e. The decision to convene a legal investigation of a mishap remains within the discretion of the commander(s) concerned. Such a decision shall not be based on the contents of a mishap investigation analysis report or the Coast Guard Mishap Report. Remarks concerning legal proceedings being conducted shall not be included in a mishap analysis report. The report of the proceedings of a legal investigation shall not be appended to, or made a part of, the mishap investigation analysis report.

6. Administrative Safeguards.

a. Correspondence. The following notices shall appear before the subject line

for:

(1) Messages.

UNCLAS FOUO //N03452// or //NO3750//
WHAT FOLLOWS MAY CONTAIN PRIVILEGED SAFETY INFORMATION.
USE FOR MISHAP PREVENTION PURPOSES ONLY.

(2) Endorsements.

WHAT FOLLOWS MAY CONTAIN PRIVILEGED SAFETY INFORMATION.
USE FOR MISHAP PREVENTION PURPOSES ONLY.

(3) The following notice shall appear on the MAR immediately after initial heading identifying the mishap.

//

MISHAP ANALYSIS REPORT
FOR OFFICIAL USE ONLY
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH COMDTINST M5100.47 (series)

WHAT FOLLOWS MAY CONTAIN PRIVILEGED SAFETY INFORMATION. UNAUTHORIZED DISCLOSURE OF THE INFORMATION IN THIS REPORT IS PUNISHABLE UNDER ARTICLE 92, UNIFORM CODE OF MILITARY JUSTICE AND MAY ALSO BE GROUNDS FOR DISCIPLINARY ACTION UNDER CIVILIAN PERSONNEL REGULATIONS

//

(4) The following notice shall appear on the bottom of each page of the MAR.

//

MISHAP ANALYSIS REPORT
FOR OFFICIAL USE ONLY
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH COMDTINST M5100.47 (series)

//

b. Mailing Envelopes/MAR Covers. Envelopes and Mishap Analysis Report Covers should be stamped:

FOR OFFICIAL USE ONLY
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH COMDTINST M5100.47 (series)

7. Security Classification. Mishap analysis reports shall not be classified unless they contain information requiring classification in the interests of national defense or security. Reports containing such information shall, if possible, be prepared with the classified material separate from the report, so that the remainder of the report may remain unclassified.

8. Essential Safety Information. Communication of this type information is necessary to share lessons learned that may prevent reoccurrence of the same or similar type mishap. This information may be mishap specific in nature, such as an equipment design problem, or it may be conceptual in nature, such as a management system problem.

9. Dissemination of Essential Safety Information. Commandant (G-WKS) shall disseminate any essential safety information received from any reports required by this instruction. Minimum distribution shall be to the appropriate resource/aircraft/vessel controlling custodians. In no case should the fact that information is privileged safety information inhibit the dissemination of essential safety information. Should essential safety information include privileged safety information, and that information has not been adequately disseminated to those who need it, Commandant (G-WKS) shall take one of the following actions (listed in the order of preference):

   a. Extract the essential safety information from the privileged safety information and disseminate only that information (i.e., via articles in safety periodicals, safety advisory messages, newsletters, correspondence recommending corrective action, etc.).

   b. Expunge ("scrub" or "sanitize") all identifying data from the privileged safety information which could connect it to a particular individual, organization, or mishap. Circulate the essential safety information via articles, periodicals, case studies, etc.

10. Release of Non-Privileged Mishap Information. All requests for non privilege mishap reports or excerpts outside the authorized distribution shall be referred to Commandant (G-WKS).

   a. The provisions of the Coast Guard Freedom of Information and Privacy Acts Manual, COMDTINST M5260.3 (series), the Public Affairs Manual, COMDTINST M5728.2 (series) and the Personnel Manual, COMDTINST M1000.6 (series) govern the release of information not contained in the mishap analysis report.

   b. Restrictions on the release of information contained in mishap analysis reports are contained in this instruction. The provisions of the Administrative Investigations Manual, COMDTINST M5830.1 (series) govern release of information contained in the report of a legal investigation.

11. Release of Privileged Mishap Information. All requests for privileged safety information shall be forwarded to Commandant (G-WKS). Unless specifically authorized by Commandant (G-WKS), these restrictions apply to the release of Coast Guard privileged safety information:

   a. Individual Knowledge. Any individual having knowledge of the content of MAB reports is prohibited from releasing that information, except per this instruction.

   b. Information Exchange with Other U. S. Military Services. Exchange of privileged safety information among the military services shall be limited to

the respective safety centers, and controlled to prevent the compromise of privileged information.

c. News Media. Mishap information based on the Mishap Final Action message may be released. In regard to news release in particular, it is essential to preserve the privileged status of MAB reports. The release of information to the news media is governed by the Coast Guard Freedom of Information and Privacy Acts Manual, COMDTINST M5260.3 (series), the Public Affairs Manual, COMDTINST M5728.2 (series) and the Personnel Manual, COMDTINST M1000.6 (series). Mishap information released to news media during the investigation will not include or show:

(1) Mishap responsibility on the part of any person.

(2) Failure of equipment or facilities.

(3) Statements tending to indicate mishap liability of the government or persons.

(4) Classified information.

(5) Causal factors.

(6) Other privileged safety information

d. The Congress or Foreign Nationals. Request for information from foreign nationals or the Congress, its committees, or members acting in their official capacity shall be forwarded to Commandant (G-WKS).

e. Relatives of Persons Involved in Mishaps. Notification to relatives of persons involved in mishaps is governed by the Personnel Manual, COMDTINST M1000.6 (series) or Decedent Affairs Manual, NAVMEDCOM 5360.1 (series). The release shall make no reference to any cause factors of a mishap. Classified information shall not be discussed with, nor given to next of kin or any representatives of the next of kin.

f. Subpoenas. Subpoenas for mishap information for use in civil/military criminal proceedings, anticipated litigation, or in administrative claims against the government, shall be referred to Commandant (G-L). This also applies to requests for release to the U. S. Department of Justice.

g. Technical Representative/Contractors. Requests for mishap information from technical representatives, manufacturers, and contractors or their agents shall be forwarded to Commandant (G-WKS) for action. Information requested shall be for safety purposes only regarding product design and/or improvement. Information shall be furnished only by Commandant (G-WKS) with the complete understanding that it will be used ONLY for safety and shall not be further released by the requester.

h. Training Purposes. Commandant (G-WKS) shall forward selected mishap information to the respective training programs (i.e., ATC Mobile, PCO/PXO School, etc.) for use as training examples.

i. Other U. S. Government Agencies. Requests shall be forwarded to

Commandant (G-WKS).

j. All other requests for mishap information, not covered above, shall be referred to Commandant (G-WKS).

12. The Privacy Act of 1974 requires that all information that can be retrieved by an individual's social security number, name, or some other identifying particular assigned to the individual, be furnished or made available to the individual unless the system manager has authorized denial of access to a record. Requests for information maintained in a system of records as defined by the Privacy Act shall be forwarded to Commandant (G-CIM). The Privacy Act specifically prohibits the release or dissemination of information from a mishap record that pertains to an individual, except as authorized in the act. See the Coast Guard Freedom of Information and Privacy Acts Manual, COMDTINST M5260.3 (series). In order to prevent the release of privileged safety information pursuant to a Privacy Act request, it shall not be maintained in a system of records from which it can be retrieved by the name, or any other identifier (such as social security number), of an individual. See the Coast Guard Freedom of Information and Privacy Acts Manual, COMDTINST M5260.3 (series).

13. The Freedom of Information Act (FOIA) requires that all Federal agencies provide the fullest possible disclosure of information to the public and places the burden on the federal agency to justify withholding any requested information. Requests made by clear implication or expressly per the Freedom of Information Act shall be forwarded to Commandant (G-CIM). Privileged safety information shall not be released pursuant to FOIA, as it is exempt from release under the authority of 5 USC 552(b)(5). The deliberative process privilege shall be cited to protect release of the deliberations of board members, experts, and endorsers. The special armed forces safety privilege shall be cited to protect witness statements and information collected under a grant of confidentiality. See the Coast Guard Freedom of Information and Privacy Acts Manual, COMDTINST M5260.3 (series).

14. Privileged Safety Information Restrictions. In accordance with the "privileged statement" concept, the following restrictions shall be observed:

a. Witness. A witness in other investigations who was also a witness before a mishap board for the same mishap cannot properly be questioned with respect to their statement to the mishap board. This does not preclude the legal investigation from questioning the same witness in the same area(s).

b. Investigation Board Member. A member of the mishap board shall not be assigned as a member of a board conducting a legal investigation for the same mishap and vice versa.

c. Member of a Mishap Board as a Witness. Although a member of a mishap board may be called as a witness in the legal investigation of the same mishap, such a procedure should be avoided, if possible. If called however, such a person cannot properly be asked or required to divulge the findings or recommendations of the mishap board. These restrictions apply to any person who may have knowledge of the substance of the report of the mishap board.

15. Privileged Nature of Material. It is essential that the mishap analysis report provide a basis for effective preventive action. Certain portions of the material used in the mishap analysis are obtained under the promise that information will have a privileged status and cannot be used for disciplinary, punitive, promotion, evaluation, attrition, or litigation purposes. Previously, the privileged status applied to each document in the mishap analysis report, causing duplication of effort. For example, the flight plan filed by the pilot prior to a mishap is a Government record and may be used by both the mishap analysis and the legal investigation. Former directives required that the mishap analysis board and fact-finding body make separate copies of the flight plan and similar documents. No good purpose is served by such duplication of effort. Therefore, the mishap board shall initially classify mishap information into two categories: Privileged and Non-privileged. The presidents of the mishap board and the fact-finding body can then determine what non-privilege information they both require and designate one person to obtain this material and make enough copies for both the mishap board and the fact-finding body. This procedure will provide a considerable saving in time and eliminate useless duplication of effort without compromising the effectiveness of the mishap analysis or the status of the privileged material. Any material not clearly within either category should be classified as privileged.

a. Privileged Material. Privileged material shall be given the special handling required by this paragraph. Privileged material shall include, but is not limited to, the following:

(1) All information obtained under the assurance that it will be used solely for mishap prevention.

(2) All statements made to the mishap board with a promise of confidentiality.

(3) All conclusions, opinions, and recommendations made by the mishap board.

(4) All endorsements to the mishap analysis report (except for the Chief of Staff's Final Decision Letter).

(5) Photographs captioned or staged by the mishap board where such captions include speculation, opinions or conclusions, if the caption cannot be removed or redacted from the photograph.

(6) Videotapes of simulated, computer generated or reenactments of the mishap are always privilege if they are made with input from MAB members or with knowledge of privilege mishap information.

(7) Expert opinions and conclusions obtained by the MAB.

(8) The actual cockpit voice recordings, but not the transcripts of pertinent information. The actual CVR tape is protected from release to the public based on the privacy interests of the aircrew and or their surviving family members.

b. Non-Privileged Material. The mishap board and fact-finding body may share

non-privileged material and the work involved in obtaining and duplicating this material. This information may also be released to the public in accordance with the law. In general, non-privileged material consists of real evidence, such as:

(1) Pieces of wreckage and other recovered items.

(2) Records: such as flight plans; weather reports and briefings; pilot aircraft and vessel log books; aircraft, vessel, shore facilities, vehicle maintenance records; hoist cam recordings; and weight and balance records.

(3) Transcripts of tape recordings from control towers, flight service stations, and air traffic control centers radio transmissions.

(4) Transcripts of relevant portions of cockpit voice recorders (CVR). (However, the actual cockpit voice recordings are privileged and may not be disclosed.)

(5) Photographs, but not the captions placed on the photograph by the mishap board.

(6) Videotapes documenting or depicting the mishap scene or wreckage, including flight deck videos and non-official videotapes and films made by individuals.

(7) Laboratory analyses (factual data, but not opinions, recommendations or conclusions).

(8) Witness statements made to the safety investigator without the promise of confidentiality.

(9) Medical records and laboratory tests, but not the Medical Officer’s Report or analysis.

(10) Other factual data.

(11) The Chief of Staff's Final Decision Letter and the Final Action Message.

PERSONNEL DOSIMETER PROGRAM REQUIREMENTS

1. Purpose. The purpose of monitoring dosimeters is to measure occupational exposure over and above background. Therefore, during the time the employee is off duty, it is important that each badge be stored in a low background radiation location away from any radiation source in the entrance/exit to the radiation area. This facilitates changing of the badges at the end of the monitoring period.

   a. Badges. A badge should never be taken from the premises unless it is to be used by the individual at some other location and storage of badges in clothing, vehicle glove compartments, private residences, and similar areas is inappropriate.

   b. Personal Identification. Each individual shall use only the dosimeter marked with his/her own personal identification.

   c. Medical or Dental X-Ray Examinations. When an individual is undergoing medical or dental x-ray examinations, the badge shall not be worn.

2. Dosimeter Badge Exchange Periods.

   a. Quarterly Monitoring Periods. Quarterly monitoring periods begin the first day of January, April, July and October. All account numbers, other than those between 400 and 499, identify facilities that are monitored quarterly.

   b. Time Period. Dosimeters should be shipped by the contractor to arrive at the facility at least seven days before the start of the next wearing period. The start date/issue date is shown on the top line of the badge's identification label and the badge labels are color coded to facilitate proper exchange of new for used badges each wearing period. Start wearing the new badge on the date shown.

   c. Deletions. It is possible you may receive badges for personnel that you requested be deleted. With approximately 4500 badges that must be labeled, packaged, and shipped, the contractor begins preparing our account for shipment three weeks before the end of the quarter. Therefore, if you request a deletion during the last month of a quarter, that person's badge still may be included in your shipment. Mark it deleted and return it to the

2. c. (cont'd) contractor. If you receive badges for personnel you have deleted from the program more than a month ago, contact the PHS Project Manager immediately by phone or letter. Do not return those badges to the contractor until you have received instructions to do so.

d. **Badge Returns**. At the end of the monitoring period, return all badges to the contractor for processing. DO NOT send badges to the PHS Project Manager. Badges must be received by the contractor before the 15th day of the month following the end of the monitoring period so that the exposure results can be included on the dosimetry report for that month. Results for badges received after the 15th will not be reported until the next month, diminishing their value in early recognition of exposure trends.

3. **Whole Body Dosimeter Badge**.

a. **Purpose**. The purpose of this badge is to record the radiation exposure to the whole body, head and trunk, active blood-forming organs, gonads, and the lenses of the eyes. The whole body dosimeter is the basic personnel monitoring device. This badge is issued to and worn by all personnel registered in the PHS Personnel Monitoring Program.

b. Badge Placement.

(1) Without Leaded Apron. The badge is worn on the outer clothing on the front of the body at chest or waist level except when wearing a protective leaded apron.

(2) With Leaded Apron. When a protective leaded apron is worn, the head and neck region i.e., the thyroid and lens of the eye, is expected to receive the highest exposure, so the whole body dosimeter should be worn on the collar outside the protective apron. (The Maximum Permissible Dose Equivalent (MPD) for the head and neck region is the same as that for the whole body and gonads, 1,250 mrem per calendar quarter, and we want to monitor that region of the body expected to receive the greatest fraction of the MPD.)

c. **Optional Procedure**. Optional procedure for when a protective leaded apron is worn is as follows.

3. c. (1) Two badges can be worn while performing diagnostic radiological examinations that require the wearing of protective aprons, e.g., during fluoroscopy and when operating portable x-ray equipment. The basic whole body badge is worn under the protective apron, at chest or waist level, and a second whole body badge then is worn on the front collar outside the apron.

(2) Badge Placement Identification. Since the second whole body badge and the basic whole body badge are identical, except for the badge number, it is extremely important that care always be taken to wear the same badge at the same position on the body during each use in order that the dose acquired by each badge is recorded and correctly identified as to the part of the body where the badge was worn. To avoid confusion, the characters "W2" should be written on the badge worn on the collar and the letters "WH" be similarly placed on the basic whole body badge.

4. Control Dosimeter Badge.

a. Purpose. The purpose of the control dosimeter badge is for quality assurance. It is identical to the basic whole body badge except that on the identification label the word "Control" is substituted for an individual's name.

b. Elimination of Recording Natural Sources Radiation. When measuring an individual's occupational exposure one would not want to record radiation exposure to the individual from natural sources of radiation such as cosmic radiation and radiation from naturally occurring radioactive materials. These include radium, thorium, and uranium, along with their daughter products, which are present in nearly all building materials. To eliminate the reading on the personnel badges from these sources, a control badge should be stored in the rack or cabinet where the badges assigned to individuals are stored. This should be an area away from any radiation sources used in the facility. The control badge is processed when the badges assigned to individuals are processed, and its reading is subtracted from those on the assigned badges.

4. c. **In the Control Room**. The control dosimeter is not intended to measure radiation levels in the x-ray control room or behind the operator's protective barrier. It must never be used as an area monitor or assigned to an individual.

5. **Extra Dosimeters Badges**.

   a. **Purpose**. To monitor visitors, students, or facility employees who only occasionally enter radiation areas. More importantly, they can be used to monitor new personnel until such time as their regularly assigned badges arrive from the contractor. Extra dosimeters may be ordered at any time. Since two to three weeks could elapse between the time a Request for Change in Radiation Monitoring Requirements (FDA Form 2546) is submitted and the badge arrives from the contractor, each facility should have a few extra badges on hand.

   b. **Identification**. These badges are identical to those regularly assigned except that on the label there is a blank space where an individual's name normally appears.

   c. **Satellite Clinic**. If a facility has a satellite clinic which is staffed by the "home" clinic, each individual should have an assigned badge at the home facility which is worn at both the home and satellite clinics. If considered necessary, in addition to the assigned badge, an extra badge, which is stored at the outlying clinic, may be worn alongside the assigned badge only while working there. Enter the outlying facility name and the employee's initials in the blank space provided. The total occupational exposure recorded in the individual's record is that on the assigned badge. The extra or satellite facility badge will make it possible to tell at which location significant dose was accrued.

6. **Area Dosimeters Monitors**.

   a. **Purpose**. These badges aid in the evaluation of radiation levels in areas accessible to unbadged personnel and the public as well as badged personnel. Monitors placed on the wall inside an x-ray room other than behind the operator's protective barrier serve no useful purpose. Personnel in the room are required to wear badges and we do not need to know how much radiation the wall received.

6. a. (1) Placement. Area monitors may be placed in occupied areas to measure ambient radiation levels. Typically, area monitors may be placed behind the operator's protective barrier in an x-ray room or on the wall of a room adjoining an x-ray facility.

(2) Identification. Area monitors are identical to the basic whole body badge except that the words "Area Monitor" will be printed on the badge's label in the space where an individual's name normally appears, unless a specific name of the area being monitored is provided. Some examples of names for specific area monitors are: operator's booth, dental clinic, hallway, wall-room 306, and secretary's desk.

7. Personnel Monitoring Requirements.

a. Individual. Personnel monitoring is required if it is likely that an individual:

(1) Over the age of 18 could receive a dose in any calendar quarter in excess of 25 percent of the applicable value shown in the table below. Thus, personnel monitoring is required if it is likely that an individual would receive a dose in any calendar quarter in excess of the following approximate values; or

	Rems Per Calendar Quarter
Whole body; head and trunk; active blood-forming organs; lens of eyes; or gonads	1.25
Hands and forearms; feet and ankles	18.75
Skin of the whole body	7.50

(2) Under the age of 18 could receive a dose in any calendar quarter in excess of five percent of the applicable value shown in the table below. Personnel monitoring for individuals under age 18 would be required if it is likely that a dose in any calendar quarter could exceed the following approximate values:

7. a. (2) (cont'd)

	Mrem Per Calendar Quarter
Whole body; head and trunk; active blood-forming organs; lens of eyes; or gonads	60
Hands and forearms; feet and ankles	900
Skin of the whole body	370

b. **High Radiation Area**. Personnel monitoring is required for each employee who enters a high radiation area.

8. **Guidelines**.

a. Low Level Exposures. Personnel monitoring is unnecessary where the nature of the work performed or the nature of the radiation sources is such that personnel exposures are below the limits recommended for uncontrolled areas two millirem in one hour, 100 millirem in seven consecutive days or 500 millirem in one year and where there is a very small potential for accidental exposure above these limits. Occasional visitors to restricted areas, including messengers, and service and delivery personnel, should be regarded as non-occupationally exposed. It is most improbable that these individuals will receive in one year a dose equivalent of more than a small fraction of the non-occupational limit of 500 millirem during their brief occupancy of restricted areas. It is, therefore, unnecessary to provide personnel monitors. Long-term visitors in a hospital should be regarded as occupationally exposed if they are likely to receive a dose equivalent exceeding 500 millirem per year, and should be monitored.

b. **Pregnant Women**. Because of special concerns regarding radiation doses to the fetus, consideration should be given to monitoring all women who operate x-ray equipment or use radioactive materials. See enclosure (12).

9. **Implementing the Program.**

a. **Request for Change in Radiation Monitoring Requirements (Form FDA 2546).** This form is used whenever a person is placed on or deleted from the PHS Personnel Monitoring Program. Upon completion, submit the forms to the PHS Project Manager. A copy should be retained for your file. If forms are not available, requests for changes may be submitted by letter provided all the information called for by the form is given. The forms can be obtained from the PHS Project Manager. The following instructions are to be used for filling out each section of the form:

(1) Return This Form To. This is the address where all completed FDA 2546 forms are to be sent. DO NOT send the forms to the contractor as the contractor has been instructed to take no action that does not originate from the PHS Project Manager. This ensures the individual is properly entered into the PHS Radiation Dosimetry Registry before a badge is issued.

(2) From. This section of the form has information which is very important to the program managers. Please give all the requested information.

(a) Enter Facility Name and Address. Write complete facility mailing address in this space.

(b) Facility Number #30 ---. Enter the number which is displayed in the lower left hand corner of your badges. It is the number by which your facility is identified in the computer.

(c) Enter Name of Person Preparing the Form, Phone Number, and Date. The name we want is the person who could answer any questions which may arise about your request. Enter that person's name, phone number, and the date the form is being submitted. The FTS number should be given if you have one.

(3) Block 1 - Required Information for Personnel to be added. This section is used to add individuals to the PHS Personnel Monitoring Program. If there is insufficient space, use additional forms or an attachment page with the complete information requested by the form and in the same format.

9. a. (3) (a) Name. Clearly print or type the individual's last name, first name, and middle initial. Be sure the printing is legible and the spelling accurate.

(b) Social Security Number. Enter the individual's social security number (SSN). This item is extremely important. All individual radiation dosimetry records are keyed to the person's SSN. Always copy the SSN from the individual's social security card, or other valid identification and double check to be sure it is correct. Access to this individual's records will be lost to him if his records are identified by the wrong social security number. If the individual does not have a SSN enter the word NONE. An identification number will be assigned.

(c) Birth Date. Enter the month, day, and year the individual was born (month written in 3 letters abbreviation, i.e., "DEC").

(d) Occupation. Refer to the list on the reverse side of the form FDA 2546. Enter the occupation that most closely represents the individual's function. If none apply, enter OTHER.

(e) Badge Type. Enter the type of badge that is being requested (in most cases this is WH).

(4) Block 2 - Required Information for Information Changes. This section is to be used if a person's name or occupation has changed or if any of the data originally submitted was incorrect.

(a) From. Enter the individual's former name and initials.

(b) To. Enter the individual's new name and initials.

(c) Social Security Number. Enter the individual's social security number. This item is extremely important.

9. a. (4) (d) Birth Date. Enter the month, day, and year the individual was born (month written in letters, i.e., "DEC").

(e) Occupation. Refer to the list on the reverse side of the form FDA 2546. Enter the occupation that most closely represents the individual's function. If none apply, enter OTHER.

(5) Block 3 - Required Information for Personnel to be Deleted. This section is to be used to delete individuals who no longer require monitoring or who no longer are employed at your facility. A deletion notice should be submitted as soon know that an individual no longer requires monitoring, to avoid receiving (and being charged for) unneeded badges in succeeding monitoring periods.

(a) Name. Clearly print or type the individual' last name, first name, and middle initial.

(b) Social Security Number. Enter the individual's social security number. This item is extremely important.

(c) Effective Date. Enter the date the individual is to be deleted from the program.

(6) Block 4 - Miscellaneous Badges Needed. This section is used for requesting extra badges or badges used as area monitors.

(a) Area Monitors. Enter the name of each area to be monitored. This is desirable but not required. If you do not wish to name the areas just enter the number of area monitors you are requesting.

(b) Extras. Enter how many extras are needed.

(7) Comments/Notes. This space is to communicate specific problems for which no space can be found on the form. Possible examples are:

(a) John Smith, badge #1234, lost his badge and needs a new one immediately.

9. a. (7) (b) This is the second time we have requested a badge for J. Jones (see above). First request was submitted month/day/year.

(c) We have a new address/phone number. Please note change above.

b. **Procedures for Using Extra Dosimeters (Badges)**. The following instructions assume that unused extra badges are available at the facility.

(1) Issuing to New Employees.

(a) Complete form FDA 2546 entering data on the new employee in Block 12, and send it to the PHS Project Manager immediately.

(b) Write the individual's name on the label of an extra badge and issue the badge to the individual.

(c) Maintain a record of the individual's name, social security number, date of birth, occupation and the badge number.

(d) When the individual's assigned badge arrives from the contractor, exchange it for the extra badge previously issued. Store the extra badge with the control badge until the end of the monitoring period (month or quarter).

(e) At the end of the monitoring period send both badges to the contractor attached to a memo stating that:

"Extra Badge No. _____for the period _____ through _____ was assigned to (give name, social security number, date of birth and occupation). This individual is being added to the PHS Personnel Monitoring Program."

(f) If the individual's regularly assigned badge has not arrived by the end of the monitoring period, reissue a new extra badge having the same identification number as before. Send the old extra badge to the contractor with the note:

9. b. (1) (f) (cont'd)

"Badge No.____ for the period _____ through _____ was assigned to (give name, social security number, date of birth, and occupation). This individual is being added to the PHS Personnel Monitoring Program."

(g) You do not need to send copies of either of these to the PHS Project Manager. These memos are for the purpose of helping the contractor assign the dose from both badges to the individual's newly assigned badge number when issued.

(2) Issuing to Visitors, Students, or Temporary Employees. These are individuals who require badging for a short time only. They should be assigned badges in the following manner:

(a) DO NOT complete a form FDA 2546;

(b) Write the individual's name on the label of an extra badge;

(c) Keep in your files a record of the badge number with the person's name, social security number, and birth date; and

(d) At the end of the monitoring period (quarterly or monthly) return the badge to the contractor. The contractor's Dosimetry Report will reflect the individual's radiation dose.

(3) Unused Extra Badges. At the end of the monitoring period, unused extra badges should be marked UNUSED and returned to the contractor. New extra badges will be issued before the start of the next monitoring period. These may be assigned to anyone as outlined above.

10. Radiation Dosimetry Reports.

a. General.

(1) The contractor will send to each facility a quarterly (or monthly) radiation dosimetry report for the badges forwarded to them for

10. a. (1) (cont'd) evaluation. The report will indicate the amount of radiation to which each badge was exposed in units of millirem (1000 mrem = 1 rem).

(2) The dosimetry report lists each employee's current and cumulative radiation exposure expressed as shallow and deep doses. For the purposes of this program "deep" is the whole body dose and "shallow" is the skin dose.

b. **Minimum Sensitivity of the Dosimeter**. The minimum sensitivity of the dosimeter is 10 mrem (0.01 rem). Any exposure less than 10 mrem will appear on the Radiation Dosimetry Report as 0 mrem. A reading near 0 mrem should be the goal of each employee. If proper practices and radiation safety precautions are observed, radiation exposures should be minimal.

c. **Cumulative Dose**. The dosimetry report gives the cumulative exposure data for each employee since the beginning of service with the current contractor. No exposures accumulated while being monitored by a previous contractor have been added to the cumulative totals. Possible changes in contractor each fiscal year would make it very difficult and expensive to transfer the exposures of the approximately 4500 individuals serviced by the program. The total life-time cumulative dose is, however, maintained on the PHS Personnel Monitoring Program System of Records. An individual's occupational radiation history reflecting the entire time enrolled in the Public Health Service Personnel Monitoring Program may be obtained at any time at the request of the individual or the facility involved. See paragraph 7-E-5 of this manual instruction.

d. **Interpretation of Dosimetry Readings**. In general, personnel dosimeters do not measure directly in dose equivalent units (rem). The measured quantity is exposure and is made with small dosimeters (badges) worn at the surface of the worker's body. For radiation protection purposes, however, the exposure (in roentgens) is taken to be equal to the dose equivalent (in rem). Unless the body is subjected to a uniform distribution of dose, the "whole-body dose" and doses to critical organs cannot be strictly determined from measurements at one point or a few points. When personnel doses are well below the Maximum Permissible Dose Equivalent (MPDE), it may be assumed for personnel monitoring purposes that the surface dose determined at one point on the trunk of

10. d. (cont'd) the body or on part of the body, such as the hand, represents the dose to the whole body or to that part. At levels approaching or exceeding the MPDE, the dose to the whole body and the critical organs should be more carefully evaluated and correction factors relating to the circumstances of the exposure should be applied.

e. Report Review.

(1) Evaluating and Comparing. Upon receipt of the dosimetry report from the contractor, the person responsible for the personnel monitoring program at the facility level should review it for any unusual radiation doses. By carefully evaluating and comparing radiation doses listed on the report, it may be possible to identify problems such as poor operator technique, insufficient shielding or improper storage of the dosimeters (badges). Typical examples are:

(a) If several employees have the same type of job and one receives a substantially greater radiation dose, it is possible that the employee needs to improve his/her radiation safety procedures, or there could be a radiation leakage problem with the x-ray machine, or inadequate shielding. Inadvertent exposure of the badge while not being worn by the employee should also be suspected.

(b) If all the badges, including the control, show radiation doses of about the same magnitude, they may have been improperly stored or perhaps exposed during shipment.

(c) If an individual's current dosimetry record represents a substantial fraction of his/her total annual or lifetime dose, the cause should be investigated. For example, the radiation dose for an individual's current monitoring period is 250 mrem but the individual's yearly and lifetime doses are 340 mrem. Obviously a substantial fraction of the individual's total accumulated dose occurred in the current monitoring period and the cause should be investigated.

10. e. (2) Special Notes. Give attention to any special notes the contractor has provided on the report; for example, damaged dosimeters (badges), late badges, or badges not received.

(3) Correct Utilization. By correctly using the information gained from the personnel monitoring service, you will be able to provide improved radiation safety for yourself and your employees.

11. **Investigation of an Abnormally High Exposure or Overexposure**.

a. **General**.

(1) Requirements. When a processed dosimeter (badge) indicates an abnormally high exposure or an overexposure to ionizing radiation, an investigation must be performed to determine whether the apparent radiation exposure represents an actual exposure of a person, or improper use, storage or shipment of the badge.

(2) Measurement of Exposure. For the purposes of this program, an exposure in excess of 300 mrem (monthly) or 600 mrem (quarterly) is considered to be an abnormally high exposure and requires an investigation.

(3) Definition of Overexposure. An overexposure is any monthly or quarterly accumulated dose that exceeds the applicable limits.

b. **Immediate Notification**.

(1) Abnormally High Exposure or Overexposure Indicated. When a dosimeter (badge) indicates an abnormally high exposure or an overexposure, the contractor will report the exposure immediately (by telephone or telegram) to the PHS Project Manager via the MLC commander (k) and the responsible individual at the facility concerned. Information transmitted will include the individual's name, social security number, badge number, date of birth, facility number, monitoring period and exposure (in mrem).

11. b. (2) Notify Senior Medical Officer. MLC commander (k) will notify the senior medical officer or designated supervising medical officer and request an investigation into the cause of exposure. All women of child bearing age will be notified in writing if such exposure resulted in a dosage of 0.5 rem or higher.

c. **Determining the Cause of an Abnormally High Exposure or Overexposure**.

(1) Investigation Guidance. Personnel at the facility in which the abnormally high exposure or overexposure occurred are required to conduct an investigation. The PHS Project Manager is available to give advice and guidance in conducting the investigation.

(2) Investigation Situations. The investigation should determine whether there exists any of the following:

(a) Deliberate exposure of the dosimeter (badge);

(b) Improper storage of the badge (for example, storage in an area that contains levels of ionizing radiation above natural background);

(c) Failure on the part of the individual to use protective radiation shielding when required;

(d) Improper working procedures on the part of the exposed person;

(e) Inadequate radiation shielding of personnel in the restricted working area or defects in otherwise adequate shielding;

(f) Unintentional wearing of the badge while receiving medical or dental x-rays or undergoing nuclear medicine procedures; or

(g) Equipment malfunction.

11. d. **Investigation Report**.

(1) Disposition. When the investigation is complete, the senior medical officer or designated supervising medical officer must submit a complete, written report concerning the circumstances of the exposure and the corrective action taken. The report shall be sent to the Project Manager, PHS Personnel Monitoring Program via the MLC Health and Safety Division so that it can be determined whether or not the exposure should be removed from the individual's record and whether or not corrective action is adequate.

(2) Individual Concurrence Statement Requirement. The report shall contain a signed statement from the person to whom the dosimeter was issued, stating the person's concurrence with, or exception to, the results of the investigation.

12. **Radiation Dosimetry Histories**.

a. **Individual Record**. The radiation dosimetry record of any individual who has participated in the Public Health Service Personnel Monitoring Program can be obtained by the individual or anyone with a legitimate need to know.

b. **Requirements of Requests for Individual Records**. The request for an individuals radiation dosimetry record must be submitted in writing to the PHS Project Manager and must be accompanied by a release authorization, signed by the individual whose radiation dosimetry records are being requested. See paragraph 14 below. The request must include the individual's last name, first name, middle initial, social security number, and the period the individual was registered on the PHS Personnel Monitoring Program.

13. **Occupationally Exposed Females**. Occupationally exposed females will be instructed about prenatal exposure risks to the developing embryo and fetus. The instruction will include the information provided in enclosure (12) and should ensure exposed females understand the following.

a. **Embryo-Fetus**. The embryo-fetus is more sensitive to radiation than the adult.

13. b. **Maximum Permissible Dose Equivalent to the Fetus**. The National Council on Radiation Protection has recommended that during the entire gestation period, the maximum permissible dose equivalent to the fetus from occupational exposure of the expectant mother should not exceed 500 mrem.

c. **Responsibility to Inform Employer**. It is their responsibility to inform their employer when a pregnancy is known or suspected.

14. **Request for Radiation Dosimetry Records**.

a. A sample letter request for radiation dosimetry records is provided as Figure 11-1.

Project Manager
USPHS Personnel Monitoring Program
HFZ-60, Room C-322
Center for Devices and Radiological Health
5600 Fishers Lane
Rockville, Maryland 20857

Gentlemen:

Please forward to me the radiation exposure records for the following individual:

Name
Social Security Number
Dates of Employment

These records are needed for the following reasons: (Give reasons.)

Sincerely,

Name and Title of individual requesting the records

Encl: (1)Release Form (signed by individual whose records are being requested)

Figure 11-1

14. b. **Release Form.** A sample release form for radiation dosimetry records is provided as Figure 11-2.

RELEASE FORM FOR RADIATION DOSIMETRY RECORDS

I hereby give my permission for the Project Manager, USPHS Personnel Monitoring Program, to release my radiation exposure records to (name, title and company of individual requesting the records.)

(Signature)
Name of individual whose records are being requested

Figure 11-2

PRENATAL HEALTH RISK (U.S. NUCLEAR REGULATORY COMMISSION)

1. <u>Possible Health Risks to Children of Women Who are Exposed to Radiation During Pregnancy</u>.

   a. Studies have shown that the risk of leukemia and other cancers in children increases if the mother is exposed to a significant amount of radiation during pregnancy. According to a report by the National Academy of Sciences, the incidence of leukemia among children from birth to 10 years of age in the United States could rise from 3.7 cases in 10,000 to 5.6 cases in 10,000 children if they were exposed to 1 rem of radiation before birth (a "rem" is a measure of radiation). The academy has also estimated that an equal number of other types of cancers could result from this level of radiation. Although other scientific studies have shown a much smaller effect from radiation, the Nuclear Regulatory Commission wants women employees to be aware of any possible risk so that the women can take steps they think appropriate to protect their offspring.

   b. An employee working with radiation sources may be exposed to more radiation than the general public. However, the Nuclear Regulatory Commission has established a basic exposure limit for all occupationally exposed adults of 1.25 rems per calendar quarter, or 5 rems per year. No clinical evidence of harm would be expected in an adult working within these levels for a lifetime. Because the risks of undesirable effects may be greater for young people, individuals under 18 years old are permitted to be exposed to only 10 percent of the adult occupational limits. This lower limit is also applied to the general public.

   c. The National Council on Radiation Protection and Measurements (NCRPM) recommends limiting the occupational exposure of pregnant women to 0.5 rem. This is done because the unborn child may be more sensitive to the effects of ionizing radiation than the mother. Other scientific groups, including the International Commission on Radiation Protection, have also stressed the need to keep radiation doses to unborn children as low as reasonably achievable.

1. d. The Coast Guard is now required to inform all individuals who work in a restricted area of the health protection problems associated with radiation exposure. This instruction would in many cases include information on the possible risks to unborn babies. The regulations also state that licensees should keep radiation exposures as low as reasonably achievable. According to the International Council on Radiation Protection and Measurements vigorous efforts should be made to keep the radiation exposure of an embryo or fetus at the very lowest practicable level during the entire period of pregnancy.

e. It is the Coast Guard's policy to take all practicable steps to reduce radiation exposure. The advice of the Radiation Safety Officer should be obtained to determine whether radiation levels in working areas are high enough that a baby could receive 0.5 rem or more before birth. If so, the alternatives that might be considered are:

(1) Reduce exposure, where possible, by decreasing the amount of time spent in the radiation area, increasing distance from the radiation source, and using shielding.

(2) If pregnant, ask for reassignment in areas involving less exposure to radiation. If this is not possible, consider leaving the job. If such steps are taken, do so without delay. The unborn child is most sensitive to radiation during the first three months of pregnancy.

(3) Delay having children until no longer working in an area where the radiation dose to an unborn baby could exceed 0.5 rem.

(4) Continue working in the higher radiation areas, but with full awareness that there is some small increased risk for an unborn child.

(5) The following facts should be noted to help make a decision.

(a) The first three months of pregnancy are the most important, so make the decision quickly.

1. e. (5) (b) In most cases of occupational exposure, the actual dose received by the unborn baby is less than the dose received by the mother because some of the dose is absorbed by the mother's body.

(c) At the present occupation exposure, the actual risk to the unborn baby is small, but experts disagree on the exact amount of risk.

(d) There is no need to be concerned about sterility or loss of ability to bear children. The radiation dose required to produce such effects is more than 100 times larger than the Nuclear Regulatory Commission's dose limits for adults. A person who works in an area receiving only 0.5 rem per three month period, could receive 1.5 rems in nine months, and the unborn baby could receive more than 0.5 rem, the full term limit suggested by the NCRPM. Therefore, to restrict an unborn baby's exposure as recommended by the NCRPM, be aware that the 0.5 rem limit to the unborn baby applies to the full-nine month pregnancy.

f. **Discussion of Radiation**.

(1) The amount of radiation an individual receives is called the "dose" and is measured in "rems." The average individual in the United States accumulates a dose of one rem from natural sources every 12 years. The dose from natural radiation is higher in some states such as Colorado, Wyoming, and South Dakota, primarily because of cosmic radiation.

(2) Natural background radiation levels are also much higher in certain local areas.

(3) Many people receive additional radiation for medical reasons. The estimated average surface skin dose from one radiographic chest x-ray is 0.027 rem. The estimated average surface skin dose per abdominal x-ray is 0.62 rem.

(4) Radiation can also be received from natural sources such as rock or brick structures, from consumer products such as television and glow-in-the-dark watches, and from air travel.

1. f. (5) Radiation, like many things, can be harmful. A large dose to the whole body (such as 600 rems in one day) would probably cause death in about 30 days, but such large doses result only from rare accidents. Control of exposure to radiation is based on the assumption that any exposure, no matter how small, involves some risk. The occupational exposure limits are set so low, however, that medical evidence gathered over the past 50 years indicates no clinically observable injuries to individuals due to radiation exposures when the established radiation limits are not exceeded. This was true even for exposures received under the early occupational exposure limits, which were many times higher than the present limits. Thus the risk to individuals at the occupational exposure levels is considered to be very low. However, it is impossible to say that the risk is zero. To decrease the risk still further, licensees are expected to keep actual exposures as far below the limits as is reasonably achievable.

(6) The current exposure limits for people working with radiation have been developed and carefully reviewed by nationally and internationally recognized groups of scientists. Remember, however, that these limits are for adults. Special consideration is appropriate when the individual being exposed is, or may be, an expectant mother, because the exposure of an unborn child may also be involved.

g. <u>Prenatal Irradiation</u>.

(1) The prediction that an unborn child would be more sensitive to radiation than an adult is supported by observations for relatively large doses. Large doses delivered before birth alter both physical development and behavior in experimentally exposed animals.

(2) The National Academy of Sciences also noted that doses of 25 to 50 rems to a pregnant human may cause growth disturbances in her offspring. Such doses substantially exceed, of course, the maximum permissible occupational exposure limits.

1. g. (3) Concern about prenatal exposure at the permissible occupational levels is primarily based on the possibility that cancer (especially leukemia) may develop during the first 10 years of the child's life. Several studies have been performed to evaluate this risk. Although contradictory results have been obtained, most of the evidence suggests a relationship between prenatal exposure and an increased risk of childhood cancer.

2. **Summary**. Occupational exposures to radiation are being kept low. However, qualified scientists have recommended that the radiation dose to an embryo or fetus as a result of occupational exposure of the expectant mother should not exceed 0.5 rems because of possible increased risk of childhood leukemia and cancer. Since this 0.5 rem is lower than the dose generally permitted to adult workers, women may want to take special actions to avoid receiving higher exposures, just as they might stop smoking during pregnancy or might climb stairs more carefully to reduce possible risk to their unborn children.

DETERMINING THE COST OF PROPERTY DAMAGE.

1. Mishap Property Cost Determinations: The property damage cost of a mishap is the total cost of Coast Guard property damage, and non-Coast Guard property damage resulting from Coast Guard operations. Multiple resources may be damaged or destroyed by a single event, and are therefore reported as a single mishap. Only direct costs are to be used in determining mishap damage costs. Costs for transportation (personnel & property), salvage, temporary additional duty, setting up equipment to facilitate repair, etc., are not direct costs and are not be included in the total mishap cost estimate. The following guidelines are provided for mishap cost determinations:

    a. Destroyed, Missing, or Abandoned Coast Guard Aircraft, Cutter or Small Boat Cost. Although the acquisition cost is fixed at time of purchase, subsequent modifications may change the resource cost. Structural and engine overhaul costs also change quickly due to the prevailing market cost of labor and parts. Commandant (G-WKS) will coordinate with G-OCA, G-OCU, G-OCS, G-SEA and G-SEN to determine the acquisition and overhaul costs of an aircraft, cutter or small boat.

    b. Coast Guard Property Damage. Includes the actual cost of parts and direct repair work hours. Parts cost will include the replacement cost of damaged or destroyed parts or the cost to repair damaged parts. Work-hour costs are computed at the standard rate of $18 per work-hour. Work-hour costs do not include time used in setting up equipment for the actual repair work. Neither is the time used in removing, replacing, and inspecting undamaged parts and components solely to satisfy technical manual inspection requirements. Direct work-hours include:

        (1) Cumulative work-hours required to remove, repair, and replace damaged equipment.

        (2) Work-hours required restoring the equipment to serviceable condition, if economically repairable.

        (3) Work-hours required to remove and replace undamaged components to gain access to damaged assemblies and/or components.

        (4) Work-hours required removing and replacing a part if the part is not economically repairable.

    c. Overhaul/Rework Costs. If a repairable item can be economically overhauled, use the overhaul cost vice replacement cost for that particular item. Some large items (e.g., transmissions, engines) have fixed overhaul costs, contact ARSC or Commandant (G-WKS) for these costs. If there is no established overhaul cost, estimate the repair cost as **20%** of the item's replacement cost (current stock system price). Work-hour costs for removal, installation, etc. must be included in the total cost estimate.

    d. Replacement of Damaged Components. Removing a damaged component and replacing it with a new or used component to decrease cost and the work-

hours required for purposes of mishap classification is prohibited. If a like component is installed so equipment is available for operations, use the best estimated work-hour costs to remove, repair, and replace the damaged component for mishap classification.

e. Cost of Non-Coast Guard Property. Non-Coast Guard property damage and non-government property damage resulting from Coast Guard operations are reportable. All costs are in current dollars as of the date of the mishap. Use the best estimate of repair or best estimate of replacement cost whichever is lower.

2. Damage NOT Included in Mishap Damage Cost Estimates.

a. Damage caused by salvage or fire fighting operations. If damage occurs as a result of salvage or fire fighting or in transporting the wreckage, this damage shall be reported in the Coast Guard Salvage Report and the final Mishap Analysis Report.

b. Expected damage to Coast Guard experimental or prototype systems incurred during authorized testing.

c. Authorized intentional destruction of Coast Guard equipment and property.

OPTIONAL FORMAT FOR MAB PROGRESS MESSAGE
(Add or delete sections as appropriate)

PRIORITY
FM: (UNIT PLAD)//(MAB//
TO: COMDT COGARD WASHINGTON DC//G-WKS/G-OCA/G-SEA/G-WKH//
INFO: OTHER APPROPRIATE ADDRESSEES
BT
UNCLAS FOUO//N05100// OR//N0375 (FOR AVIATION)//
//
WHAT FOLLOWS MAY CONTAIN PRIVILEGED SAFETY INFORMATION.
USE FOR MISHAP PREVENTION PURPOSES ONLY.
//
SUBJ: (UNIT) (MISHAP TYPE AND CLASS) PROGRESS REPORT//
A. COMDTINST M5100.47
B. CONVENING ORDER DTG
1. SITUATION:
   A. SUMMARY OF INJURIES
   B. STATUS OF SALVAGE OPERATIONS
   C. DAMAGE TO COAST GUARD PROPERTY
   D. DAMAGE TO NON-COASTGUARD PROPERTY
   E. AVAILABILITY OF PERSONNEL/RECORDS/WRECKAGE/TECHNICAL ASSISTANCE
   F. OTHER INFORMATION DEEMED APPROPRIATE
2. ACTION TAKEN:
   A. TIME BOARD ARRIVED ON SCENE/CONVENED
   B. STATUS OF INVESTIGATION AND ANALYSIS
   C. OTHER INFORMATION DEEMED APPROPRIATE
3. ASSISTANCE REQUIRED:
   A. CLERICAL
   B. TECHNICAL
   C. OTHER
4. PLANS AND RECOMMENDATIONS:
   A. RECOMMENDED CHANGES TO OPERATIONAL PROCEDURES BASED ON ANALYSIS
   B. RECOMMENDED TECHNICAL INSPECTION/TRAINING BASED ON ANALYSIS
   C. ESTIMATED TIME OF COMPLETION OF THE ANALYSIS
   D. OTHER INFORMATION DEEMED APPROPRIATE
BT
NNNN

UNIT INSTRUCTION 5100.xx

Subj: PRE-MISHAP PLAN

Ref: (a) Safety and Environmental Health Manual, COMDTINST M5100.47

1. PURPOSE. This instruction establishes guidance for mishap response and reporting at Coast Guard Unit. Reference (a) provides additional guidance.

2. ACTION. All *[appropriate unit levels and personnel, i.e. department heads]* shall ensure compliance when a reportable mishap occurs as per reference (a).

3. DISCUSSION. It is Coast Guard policy that mishaps be reported. Prompt mishap investigation and reporting provides supervisors and mangers with information to prevent mishaps and prioritize resources.

4. PROCEDURE.

a. Rescue and recovery phase. *(List personnel assigned rescue and recovery responsibility e.g., duty section, clinic, local EMS, fire department, etc. Either include phone numbers for each or provide specific direction where to find these, i.e. recall lists)*

b. Responsibilities:

1)
2)
3) (etc.)

Responsibilities for the Permanent Unit Mishap Board, for drug and alcohol testing, release of information to the public (per COMDTINST M5728.2 (series)), next of kin notification (per Personnel Manual, COMDTINST M1000.6 (series)), obtaining of Critical Stress Incident De-brief, etc. should be specifically assigned with alternates

c. Preservation of evidence: Unit personnel shall secure the mishap scene and collect any information which may hold clues to the cause of the mishap. The mishap scene provides the most perishable information, so gathering on scene/onboard evidence, taking photographs, and making diagrams of the scene are the first investigative priorities. Additionally, the following evidence should be preserved and collected for the investigation:

1) Maintenance record(s) of equipment involved
2) Training records of those involve in the mishap.
3) Service records of those involve.

4) Medical records of those involved.
5) Unit/deck log
6) Engineering logs.
7) Standard bearing book.
8) Standing orders, night orders, morning orders.
9) Inspection log/records.
10) Weather and sea state observed at the mishap scene, and forecast/analysis data from nearest NWS or FAA facility.

d. Reporting. The following procedures shall be followed, as appropriate, when a mishap is reported:

1) Responding personnel shall make an initial determination as to the severity of the mishap.
2) Responding personnel shall use the unit recall list to contact the *(appropriate personnel, e.g., CO, OIC, XO, OOD, Safety Officer, Unit Safety Coordinator)*.
3) Immediately report all class A & B mishaps to Commandant via telephone through the chain of command.
4) A preliminary message shall be sent for class A & B mishaps as per reference (a) within 12 hours.
5) Class C & D mishap reports shall be initiated by the first line supervisor and submitted to the *(CO/OIC or OX/XPO)* within ## days of the mishap.
6) Reporting format shall be in accordance with reference (a).

e. Investigation of mishaps.

1) Commandant will assign a Mishap Analysis Board (MAB) to investigate most class A & B mishaps. Preservation of evidence shall be undertaken with the assumption that an MAB will convene. Every MAB shall produce a Mishap Analysis Report (MAR) in accordance with reference (a).
2) MAB's are not normally assigned for off duty personnel not on Coast Guard property involved in a class A or B mishap, (e.g., private vehicle, sporting event, hobby, or authorized outside employment). Appropriate local authority (e.g., local police or fire department) normally will investigate these mishaps. Unit shall produce MAR in accordance with reference (a) and incorporate local authority findings in report unless directed otherwise by Commandant.
3) All class C & D mishaps shall be analyzed and investigated per reference (a). The Unit safety board shall review all such reports.

CO/OINC Signature

SAMPLE MISHAP ANALYSIS KIT

1. TOOLS AND EQUIPMENT

   Tape Measure & Ruler

   SLR, 35 mm Camera

   Spare color, and black & white film

   Micro-cassette recorder

   Spare cassette tapes

   String

   Chalk

   Plastic Bags/Assorted Sampling Bottles

   Flashlight

   Spare batteries for all equipment

   Small Knife

2. ADMINISTRATIVE SUPPLIES

   Accident Investigator's Guide

   Grease Pencil

   Permanent Marker

   Note pads & Graph Paper

   Clipboard

   Pens and Pencils

   Tags & Sticky Notes

3. PERSONAL PROTECTIVE EQUIPMENT

   Rubber and Leather Gloves

   Ear plugs

   Protective glasses

   Hard Hat

(SAMPLE)

MEMORANDUM OF UNDERSTANDING
BETWEEN
UNITED STATES COAST GUARD (unit)
and
(fire department)

This Agreement, entered into this _____ day of _____, between the United States Coast Guard (CG unit) and the (fire department) is for the purpose of providing fire protection, the protection of life and property from fire and firefighting, and the provision of emergency medical services, by the (fire department) to the (CG unit). The (fire department) and (CG unit) agree that:

1. On request made to (fire department) via telephone number (000) by a representative of the (CG unit) designated in this agreement, firefighting and/or emergency medical services equipment and personnel of the (fire department) shall be dispatched to the (CG unit) as determined and directed by (fire department).

2. Any dispatch of equipment and personnel pursuant to this agreement is subject to the following conditions:

a. All requests for fire or emergency medical equipment and personnel shall be made by telephone, unless that number is inoperative or unavailable for any reason.

b. Any request for aid under this agreement will include a description by the (CG unit) representative of the type or nature of the fire or emergency to which response is requested, and will specify the location to which the equipment and personnel are to be dispatched: however, the amount and type of equipment and number of personnel to be furnished will be determined by the (fire department).

3. The (fire department) equipment and personnel will report to the main gate of the (CG unit). The (CG unit) shall provide an escort to meet the equipment and personnel at the main gate and guide the (fire department) personnel to the location where emergency services are to be rendered. All actions of the (fire department) fire and rescue equipment and personnel in responding to the emergency shall be at the sole direction of the (fire department).

4. Reimbursement to the (fire department) for cost of firefighting on the (CG unit) is governed by section 2210, Title 15, United States Code, and the implementing regulations

set forth at part 151, Title 44, Code of Federal Regulations. Any such claim for reimbursement for firefighting cost may also include costs associated with emergency medical services to the extent normally rendered by a fire service in connection with a fire.

5. All equipment used by the (fire department) in carrying out this agreement will, at the time of action hereunder, be owned by, under the control of, or being employed in accordance with existing Mutual Aid Agreements, and all personnel acting for the (fire department) under this agreement will, at the time of such action, be an employee or volunteer member of the (fire department) or acting in accordance with existing Mutual Aid Agreements.

6. As an aid to implementing this agreement, members of the (fire department) with prior arrangement with the Commanding Officer or his designated representative are invited to tour the facility for the purpose of preparing a pre-fire plan. This plan may be reviewed biennially.

This agreement shall become effective upon the date subscribed by the last signatory and reviewed on a yearly basis.

By: _____ Date: _____
Commanding Officer

By: _____ Date: _____
Fire Department Administrator

Assigning Safety & Health Hazard Risk Assessment Codes (RAC)

RAC's are used to predict the relative risks associated with unabated safety and health hazards in the living & working environment. The RAC system is based on two factors: mishap probability and mishap severity. Following is a matrix to be used in assigning safety and health RAC's. For safety and environmental health the frequency (probability) of a mishap occurrence and its effects (severity) are used to define the risk. For occupational health hazards real or estimated measures of actual exposures (probability) along with potential medical effects of exposure (severity) are used to define the risk.

1. HOW TO USE THIS MATRIX

First. Determine MISHAP PROBABILITY by using chart #1 for safety and environmental health hazards or chart #2 for occupational health hazards (I, II, III or IV).

Second. Determine potential MISHAP SEVERITY by using chart #3 (A, B, C or D)

Third. Using the results from charts #1 or 2 and 3, use chart #4 to determine the RAC (1, 2, 3, 4 or 5).

CHART #1: SAFETY or ENVIRONMENTAL HEALTH MISHAP PROBABILITY

I	**Frequent:** one or more events per year.
II	**Likely:** several events during the life of a system or during a members career.
III	**Infrequent:** one event during the life of a system or during a members career.
IV	**Unlikely:** assume will not happen during the life of a system or during members career.

CHART #2: OCCUPATIONAL HEALTH MISHAP PROBABILITY (Exposure Dose; Measured or estimated without consideration for the use of PPE)

Level of Exposure	**Duration**	
	< 30 days/year	**30 days/year or more**
Less than (<) ¼ STEL or 8 hr TLV	**IV**	**IV**
Between ¼ and ½ STEL or 8 hr TLV	**IV**	**III**
Greater than (>) ½ but less than (<) STEL or 8 hr TLV	**III**	**II**
Equal or greater than (>) STEL or 8 hr. TLV	**III**	**I**

CHART #3: SEVERITY

	People	Property	Mission
A	Injury or illness resulting in death or a permanent total disability (Illnesses include: asbestosis, lung cancer, AIDS from blood exposure)	Cost of damage is $1,000,000 or greater	Inability to accomplish a critical mission
B	Injury or illness resulting in permanent partial disability (Illnesses include: elevated lead in small children, isocyanate sensitization, Hepatitis C)	Cost of damage is greater than $200,000 but less than $1,000,000.	Major impact on ability to accomplish a critical mission. Significant command attention.
C	Injury or temporary reversible illness resulting in loss of time from work beyond the day on which it occurred (Illnesses include: metal fume fever, adult elevated lead, food poisoning)	Cost of damage is greater than $20,000 but less than $200,000.	Moderate impact on ability to accomplish a critical mission. Limited capability but able to respond if needed.
D	Injury or temporary reversible illness requiring more than simple first aid treatment (Illnesses include: eye irritation, sore throat, mild poison ivy)	Cost of damage is greater than $1000 but less than $20,000.	Minor impact on ability to accomplish a critical mission. Operational nuisance.

CHART #4: RISK ASSESSMENT CODE

PROBABILITY	SEVERITY			
	A	B	C	D
I	**RAC 1**	**RAC 1**	**RAC 2**	**RAC 3**
II	**RAC 2**	**RAC 2**	**RAC 3**	**RAC 4**
III	**RAC 3**	**RAC 3**	**RAC 4**	**RAC 5**
IV	**RAC 4**	**RAC 5**	**RAC 5**	**RAC 5**

2. RISK DESCRIPTION AND ACTION FOR HAZARD ABATEMENT

RAC Number	Action
1	Stop operation, abate the hazard immediately through the use of engineering controls, administrative/work practice controls, or PPE. For occupational health hazards enroll personnel in OMSEP.
2	Use engineering controls, administrative/work practice controls, or PPE s to immediately control the hazard. If feasible & practical abate the hazard within 6 months. For occupational health hazards enroll personnel in OMSEP.
3	Use engineering controls, administrative/work practice controls, or PPE to control the hazard. If feasible & practical, abate the hazard within the normal 3 - 4 year engineering cycle. For occupational health hazards enroll personnel in OMSEP.
4	Maintain surveillance, abatement not required
5	Abatement and surveillance not required.